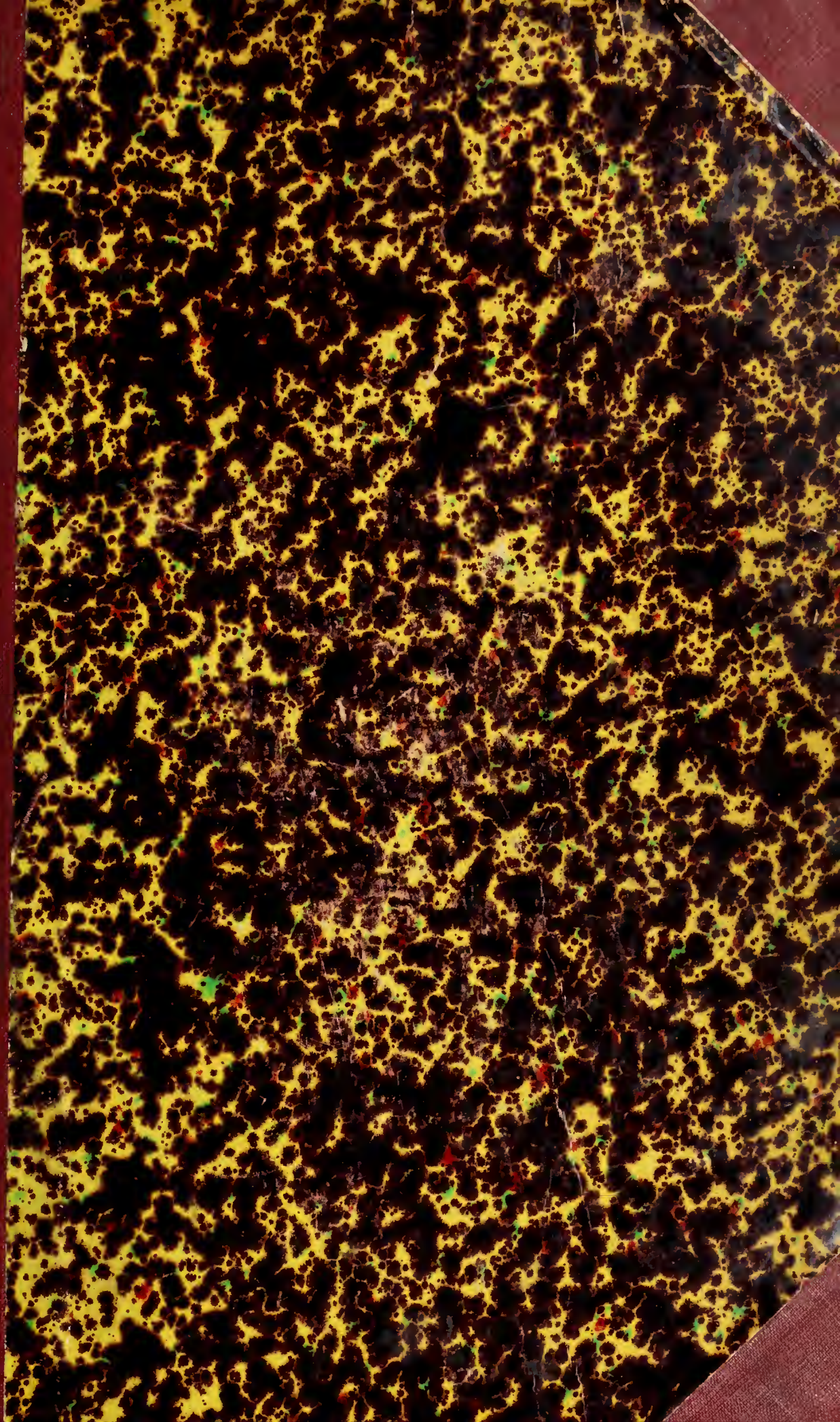


COUNTWAY LIBRARY



HC 3141 C



BOSTON
MEDICAL LIBRARY
& THE FENWAY



Digitized by the Internet Archive
in 2015

<https://archive.org/details/californiastatej1419medi>

THE CALIFORNIA STATE JOURNAL OF MEDICINE

EDITED BY
PHILIP MILLS JONES, M. D.

VOLUME XIV
1916

PUBLISHED BY THE
MEDICAL SOCIETY STATE OF CALIFORNIA
SAN FRANCISCO

OFFICERS OF THE Medical Society of the State of California

GEORGE H. KRESS, Los Angeles, President
L. R. WILLSON, Fresno, 1st Vice-Pres. JNO. C. YATES, San Diego, 2nd Vice-Pres.
PHILIP MILLS JONES, Butler Building, San Francisco, Secretary

COUNCILORS

C. G. KENYON, San Francisco, Chairman
(6th District. Term expires 1919)
T. C. EDWARDS, Salinas
(3d District. Term expires 1918)
E. N. EWER, Oakland
(7th District. Term expires 1917)
A. W. HOISHOLT, Napa
(9th District. Term expires 1917)
A. C. A. JAYET, San Jose
(5th District. Term expires 1917)
E. C. MOORE, Los Angeles
(2d District. Term expires 1919)

GEORGE H. AIKEN, Fresno
(4th District. Term expires 1918)
JAS. H. PARKINSON, Sacramento
(8th District. Term expires 1919)
RENÉ BINE, San Francisco
(At Large. Term expires 1917)
H. A. L. RYFKOGEL, San Francisco
(At Large. Term expires 1918)
O. D. HAMLIN, Oakland
(At Large. Term expires 1919)
C. VAN ZWALENBURG, Riverside
(1st District. Term expires 1918)

CONTENTS AND INDEX

Abderhalden Test, The.....	28	Apocodin, a New Laxative With Exceptional Advantages, W. C. Alvarez, M. D.....	363
Abdominal Symptoms, Aneurysm—C. W. Lippman, M. D.....	296	Army Medical Corps Examinations.....	303, 465
Abortion, and Some Suggestions How to Lessen Criminal Abortions—Oswald H. Beckman, M. D.....	447	Army Medical Department, Field Records.....	497
Abortions, Criminal and the Medical Profession—Chas. D. Ball, M. D.....	64	Army, Organization of the.....	424
Abscesses, Perinephritic—Wm. F. Braasch, M. D.	14	Arterio-Sclerosis, Danger of Baths in Patients Suffering from—Wm. Watt Kerr, M. D....	279
Accidents and Carelessness.....	84	Athletics, On Pupils, Effect of—Report of the Committee—H. D'Arcy Power, M. D.....	220
Alderson, H. E., M. D.—Remarks on the Modern Treatment of Syphilis.....	179	Auditor's Report, 1915.....	149
Alexander, E. W., M. D.—Incipient Systemic Disturbances as Shown by Ocular Signs....	478	Automobilists, Careless	302
Alvarez, W. C., M. D.—Apocodin—A New Laxative With Exceptional Advantages.....	363	Ball, Chas. D., M. D.—Criminal Abortions and the Medical Profession.....	64
American Association for the Advancement of Science	205	Barbat, J. H., M. D.—Complete Removal of Parotid Gland Without Injury to Facial Nerve	115
American Medical Association—Detroit, June, 1916	247	Beckman, Oswald H., M. D.—Abortion, and Some Suggestions How to Lessen Criminal Abortions	447
Anesthetics, Local—Granville MacGowan, M. D.	6	Behlow, W. W., M. D.—Laryngeal Diphtheria; Our Knowledge of It Up to Date.....	5
Annual Meeting—Forty-fifth.....	218	Behlow, W. W., M. D.—Rubeola.....	198
Appendicitis, Chronic, Complicating Pulmonary Tuberculosis—Jno. C. King, M. D.....	268	Bennett, Laura B., M. D.—Department of Psychology in Los Angeles City Schools—A Study of the Mentally Different.....	101

Birch, F. W., M. D.—Twenty-seven Transfusions at St. Luke's Hospital.....	240
Birth Registration in San Francisco.....	258
Blindness Following Injuries to the Back of the Head—Leo Newmark, M. D.....	487
Board of Medical Examiners.....	36
Board of Medical Examiners, in re: Resolutions of Endorsement and of Dr. Wm. R. Molony	168
Boardman, W. W., M. D.—Review of Recent Progress in X-Ray.....	24
Board of Health, State.....	251, 424
Bone Plate, The Passing of the—Paul S. Campiche, M. D.....	310
Botulism: Its Occurrence in California—E. C. Dickson, M. D.....	143
Braasch, Wm. F., M. D.—Perinephritic Abscesses	14
Brain, Traumatism of the—Alanson Weeks, M. D.....	47
Brodrick, R. G., M. D.—New San Francisco Hospital	331
Brown, E. M., M. D.—A Tuberculosis Story..	248
Brown, Rexwald, M. D.—An Arthroplasty of the Elbow	146
Butler, Edmund, M. D.—Simple Treatment of Fracture of Inferior Maxilla.....	286
Bullard, Rose Talbott, Dr.....	124
California Pediatric Society.....	157, 492
California Pediatric Society, Northern Branch.	70
Campiche, Paul S., M. D.—Case Reports....	116
Campiche, Paul S., M. D.—Report of Case....	146
Campiche, Paul S., M. D.—The Passing of the Bone Plate	310
Cancer, "Autolysin" Treatment.....	29
Case Reports—Paul S. Campiche, M. D.....	116
Case Recording—H. D'Arcy Power, M. D....	94
Cason, G. I., Dr.....	125
Cause and Cure of Pellagra.....	41
Catton, J. H., M. D.—Leukopenia. Its Relation to Orchitis. Case Report.....	53
Catton, J. H., M. D.—Leukopenia: Its Relation to Neuralgia	106
Catton, J. H., M. D.—Leukopenia: Its Relation to Bronchitis	320
Cecil, A. B., M. D.—Contracture of the Vesical Neck. Diagnosis and Treatment.....	311
Clark, Genevieve L.—Clinical Records.....	89
Clinical Records—E. S. Kilgore, M. D.....	12
Clinical Records—E. S. Kilgore, M. D.....	55
Clinical Records—Genevieve L. Clark.....	89
Chipman, E. D., M. D.—Fresh Syphilis and the Newer Remedies	179
Chipman, E. D., M. D.—Streptococci Infections of the Skin.....	472
"Christian Science," Slow Poisoning by—Robt. B. Dempsey, M. D.....	199
Cooke, A. B., M. D.—Anoci-Association: A Plea for the Surgical Patient.....	50
Colliver, J. A., M. D.—Diagnosis and Treatment of Poliomyelitis in the Paralytic Stage	352
Committee on State Industrial Accident Laws.	424
Contents and Index of Vol. XIV, 1916.....	I
Correction	258
Council, Report of.....	219
Death, Principal Causes of.....	206
Deaths	42, 84, 126, 168, 210, 258, 304, 344, 386, 426, 464, 498
Dempsey, Robt. B., M. D.—Slow Poisoning by "Christian Science"	199
Dental Preparedness	466
Department of Pharmacy and Chemistry—F. I. Lackenbach ..34, 78, 167, 204, 248, 383, 421, 464,	494
Do You Know That.....	341
Dickson, E. C., M. D.—Botulism: Its Occurrence in California.....	143
Dining Cars	250

Diphtheria, Laryngeal; Our Knowledge of It Up to Date—W. W. Behlow, M. D.....	5
Diphtheria, Treatment of—George E. Ebright, M. D.	324

Ebright, Geo. E., M. D.—Treatment of Diphtheria	324
---	-----

Editorials:

About Incomes	467
Abuse of the Mails by Physicians, Danger..	44
Act Quickly	260
Account, When You Sue an Estate for Your	306
Accounts	130
Advertising	309
Alcohol and Prohibition.....	429
American Medical Directory.....	2, 213
American Medical Association Libel Suit....	213
American Medical Association, Incorporation	44
American Medical Law Suit.....	44
Another Swindler	264
Annual Meeting at Coronado.....	387
Annual Meeting at Coronado.....	427
Astrology, Test of.....	45
Automobilists Attention	131
Bills Against an Estate.....	214
Breach of Contract.....	211
Business Proposition	260
California Springs	211
Careless Doctors	346
Carrel's Solution	429
Children, Proper Food for Young.....	172
Committees of the State Society.....	212
Correction	262
County Society Activity.....	263
County Society Notices.....	263
Curious to Say the Least.....	131
Difficult Situation	212
Dr. Bloodgood and Cancer.....	171
Doctor Molony and "The Hog-Tight Fence"	2
Doctor George L. Painter.....	310
Doctor C. Van Zwalenburg.....	310
Emanuel Movement and the Law.....	469
First Aid Committee.....	212
Fourth of July.....	307
Fracture Records	2
Fresno, 1916	127
Fresno Meeting	127
Fresno Hotels	46
Fresno, 1916	127
Grievance Committee	346
Harrison Narcotic Law.....	261
Harvest of the Reaper, The.....	171
Harrison Law	309
Health Efficiency	262
Health Insurance	310
Health Insurance	262
Health Insurance, Social or.....	212
Health Insurance	389
Health Insurance, Brief for.....	390
Health Insurance	346
Health of Sacramento.....	431
Health and the Woman Movement.....	172
Helpful Suggestions	213
Hospital Charts	389
Hospital Liabilities	87
Important Notice	387
Infant Mortality	347
Indemnity Fund	387, 428, 467
Indemnity Fund, Again.....	467
Industrial Accidents	427
Industrial Accident Insurance.....	172, 388, 469
Industrial Accident Law—Fee Under.....	308
Increased Costs	427
Infantile Paralysis	308
Insurance Company, Co-operation With....	130
Laboratory Tests, Standard.....	389
Malpractice; A Curious Coincidence.....	427
Malpractice Cases, Experts in Our.....	263
Malpractice Defense	211, 259
Malpractice Indemnity Fund.....	260, 345, 467
Malpractice Rules.....	347

Many Thanks	213	Eloesser, Leo, M. D.—In the Troubled Part of the World.....	28
Medicine and Sociology.....	469	Errata, In.....	426
Medicine, Changes in.....	388	Esophagus and Respiratory Tract, The Re- moval of Foreign Bodies from—H. B. Graham, M. D.....	354-416
Medical Defense	132	Ethical Standards, It Pays the Manufacturer to Maintain	168
Medical Defense and Insurance Companies..	128	Evans, G. H., M. D.—Are We Making Pro- gress in the Early Recognition of Tubercu- losis?	20
Medical License in California, Value of.....	261	Fibromyoma Uteri; Sketch of Treatment, Op- eration and Otherwise, With Especial Refer- ence to Roentgen Ray Therapy—H. J. Kreutz- mann, M. D.....	475
Medical Preparedness—Notice	430	First Aid, American Conference.....	125
Membership	130	First Aid Committee.....	168
Merry Christmas	468	Free Employment Bureau, Government Opens, for Farmers and Others Seeking Help in San Francisco	168
Military—Medical Preparedness	45	Fresno Meetings	169
Needed Reform of County Societies.....	468	Fresno Meeting—Those Registered—April, 1916	225
Obstetrics and Malpractice Suits.....	86	Fracture, Base of Skull; Presentation of Pa- tient—Paul R. Walters, M. D.....	287
On Hospitals	3	Fracture of Inferior Maxilla, Simple Treat- ment of—Edmund Butler, M. D.....	286
One-Cent Verdict, That.....	306	Gastro-Intestinal Diagnosis, Selected Points in —Caro W. Lippman, M. D.....	399
Operations and the Law.....	86	Gedge, D. M., M. D.—The Proposed Social Health Insurance Act.....	446
Orange County and Medical Defense.....	128	Geiger, J. C., M. D.—Is Rabies Under Control in California?	58
Opportunity is Yours.....	260	Geiger, J. C., M. D.—A Water-Borne Epidemic of Typhoid Fever at Santa Barbara.....	137
Osteopathic Ingenuousness	3	Geiger, J. C., M. D., and F. L. Kelly, M. D.— Plasmodium Malariae (Quartan) a New Type to California.....	198
Ozena, Etiology	308	Geiger, J. C., M. D.—Human Cases of Rabies in California and Their Treatment.....	230
Painter, George L., M. D.....	349	Geiger, J. C., M. D.—A Statistical Study of Rabies in California.....	276
Patronize Those Who Patronize Your Jour- nal	431	Geiger, J. C., M. D.—Résumé of Epidemiologi- cal Investigations Epidemics of Poliomyelitis With Reference to Contagiousness.....	413
Paying Judgments	259	Geiger, J. C., M. D.—Supplementary Report of Human Cases of Rabies in California.....	482
Philip Mills Jones, Attorney.....	431	Gibbon, J. F., M. D.—The Origin and Ending of the Dr. Jordan Museum of Anatomy, etc.	26
Poorly Qualified	211	Gibbons, M. R., M. D.—Principles and Prob- lems of Industrial Accident Work.....	470
"Practical Nurse" Again.....	213	Goitre, Roentgen Treatment of—Howard E. Ruggles, M. D.....	289
Preparedness	305	Gonorrhea, Upon the Sero-Diagnosis of— Martin Krotoszyner, M. D.....	451
Preparedness Parade	307	Graham, H. B., M. D.—The Removal of For- eign Bodies from the Esophagus and Respir- atory Tract	354-416
Program Committee, 1916.....	5, 44, 345	Graves, Jno. H., M. D.—Should the Medical Profession Plead in Favor of the Proposed Health Insurance Bill?.....	439
Poisonous Fly Papers.....	86	Grazer, Fred'k, M. D., and F. F. Gundrum, M. D.—A Study in Handicaps.....	99
Poliomyelitis	391	Gross, Samuel D., Prize.....	304
Post Graduate School.....	430	Group Study, The History in—J. Marion Read, M. D.....	369
Purely Personal	347	Gunn, Herbert, M. D.—Salvarsan and Neosal- varsan in Tropical Diseases.....	481
Records	170	Handicaps, A Study in—Fred'k Grazer, M. D., and F. F. Gundrum, M. D.....	99
Records, Identifying	389	Hay-Fever Weeds and How They May be Recognized	257
Register and Directory.....	88	Harrower, H. R., M. D.—The Inconspicuous Every-day Forms of Thyroid Insufficiency..	184
Reports Are to Be Made, Not Assumed....	87	Headaches, Due to Eye Strain, Why Corrective Lenses Often Fail to Give Relief—R. O'Con- nor, M. D.....	193
Reprints	431	Health and Accident Insurance Company of California	385
Sad But True.....	469	Health Efficiency	304
Safety at Reasonable Cost.....	259		
Sanitary Engineering	214		
Scientific Activity	431		
Scientific American	347		
Scientific Anachronism	214		
"Scientific" American	309		
Scientific Program—Important Notice.....	429		
"Science"?	262		
Social Insurance.....	44, 173, 262, 306, 388		
Some Advice	3		
Southern Pacific	88		
Spendid Work	214		
State Pasteurization of Milk.....	431		
State Society Meeting—April, 1916.....	85		
State Society—Fresno, April, 1916.....	1		
Statutes of Limitation	43		
Statute of Limitations.....	390		
Stupidity	470		
St. Luke's Hospital, The Paying of the Old Mortgage	390		
Surgeons, Not Only.....	260		
Swindlers	430		
Swindlers, Subscription	172		
Syphilis, Reputation of Remedies for.....	4		
Training Schools, Investigation.....	470		
Tuberculosis	85		
Tuberculosis, New Views on.....	264		
Useful Drugs	430		
Vacant Lots, Cultivation of.....	348		
Verdict Against the A. M. A.....	305		
Verdict \$5,000—How Would You Like It?..	431		
Waiver of Privilege.....	171		
Warning	347		
What We Do Not Know.....	307		
What We Should Know.....	46		
Dr. Wm. Ophuls, Dean.....	2		
Your Office	85		
Youthful Parent; Ordinary Child.....	85		
X-Ray Plates and Negligence.....	305		
X-Ray Plates, Ownership of.....	213		
Elbow, An Arthroplasty of the—Rexwald Brown, M. D.....	146		

Health Insurance, Take Warning.....	170	Lippman, Caro W., M. D.—Selected Points in Gastro-Intestinal Diagnosis	399
Health Insurance Campaign, Medical Men Open	256	Lobingier, A. S., M. D.—Sir Victor Horsley— An Appreciation	414
Health Insurance, Organization of Medical Service	256	Mack, C. W., M. D.—Psychogenic Factors in Organic Disease	325
Health Insurance, Should the Medical Profes- sion Plead in Favor of the Proposed Bill— Jno. H. Graves, M. D.....	439	MacGowan, Granville, M. D.—Local Anesthe- tics	6
Hernia, Industrial—Wm. B. Smith, M. D....	351	Malaria, Diagnosis of—J. R. Snyder, M. D..	145
Holsholt, A. W., M. D.—Infection—Psychoses and the Symptom-Picture of Mental Confu- sion	392	Malariae, Plasmodium (Quartan), a New Type to California—J. C. Geiger, M. D., and F. L. Kelly, M. D.....	198
Hospital, New San Francisco—R. G. Brodrick, M. D.....	331	Manufacture of Explosives, Dangers Other Than Accidents in the Manufacture of.....	424
Hurwitz, S. H., M. D.—Preliminary Tests of the Blood in Transfusions.....	318	Marshall, J. S., M. D.—Oral Hygiene, the Care of the Mouth During Illness.....	112
Important Notice	467	Marshall, J. S., M. D.—Septic Teeth.....	405
Incipient Systemic Disturbances as Shown by Ocular Signs—E. W. Alexander, M. D.....	478	Marshall, J. S., M. D.—Septic Teeth (Contin- ued from page 407, October issue).....	454
Industrial Accident Commission, Report of....	81	Mastoid Operation Dependent Upon Pathology —C. F. Welty, M. D.....	25
Industrial Health Insurance Legislation, Co- operation	80	McNeile, Olga, M. D.—Pre- and Post-Operative Care	189
Industrial Welfare Number of "The Modern Hospital"	385	Medical Aid, Sanitary Units in the Field and Lines of.....	496
Infantile Paralysis—Acute Anterior Poliomye- litis	341	Medical Practice Acts of California.....	152
In Errata	209, 498	Medical Preparedness League.....	386
Inman, Thos. G., M. D.—Notes on Syphilis of the Central Nervous System.....	269	Medical Preparedness, Lecture on.....	466
Interesting Relic	494	Medical Service of a Base Hospital.....	497
Items of Interest	35, 79, 167, 204, 248, 383, 422, 464, 494	Medical Society, State of California, Fresno, 1916—Remember the Dates.....	12
Jablons, Benjamin, M. D.—Concretions of the Spleen	103	Medical Society—State of California—April, 1916	101
Japanese Careful to Register All Births.....	36	Medical Society, State of California, Fresno..	136
Jordan Museum of Anatomy, The Origin and Ending—J. F. Gibbon, M. D.....	26	Medicine and Dentistry.....	304
Kelly, Frank L., M. D.—Rocky Mountain Spotted Fever	407	Meningitis, Cerebro-Spinal, Epidemic—Wm. B. Smith, M. D.....	333
Kerr, Wm. Watt, M. D.—Danger of Baths in Patients Suffering from Arterio-Sclerosis..	279	Meningitis, Prospects of Surgical Treatment— H. C. Naffziger, M. D.....	322
Kilgore, E. S., M. D.—Clinical Records.....	12	Millsberry, G. S., D. D. S.—Oral Hygiene from an Educational and Economic Viewpoint...	187
Kilgore, E. S., M. D.—Clinical Records.....	55	Minutes of the House of Delegates, Forty-fifth Annual Meeting—Fresno, 1916.....	221
Kidney Cures, Seized.....	80	Montgomery, D. W., M. D.—The Treatment of Syphilis in the Primary Stage.....	180
King, Jno. C., M. D.—Chronic Appendicitis Complicating Pulmonary Tuberculosis.....	268	Moore, H. S., M. D.—Two Freak Accidents During Tonsillectomies	487
Klotz, W. C., M. D.—Tuberculin Therapy: Its Principles, Limitations and Indications.	283	Morrow, Howard, M. D.—The Present Status of Salvarsan Treatment.....	183
Kress, G. H., M. D.—The Conservation of Vision	227	Naffziger, H. C., M. D.—Prospects of Sur- gical Treatment in Meningitis.....	322
Kreutzman, H. F., M. D.—Personal Experi- ences With Roentgen Rays in Gynecologic Practice	141	Navy	42
Kreutzmann, H. J., M. D.—Fibromyoma Uteri; Sketch of Treatment.....	475	Navy Reserve	382
Krotoszyner, Martin, M. D.—Upon the Sero- Diagnosis of Gonorrhea	451	Navy Surgeons	386, 496
Kyle, J. J., M. D.—A Brief Reference to the Bacteriology of Nasal Sinus.....	238-379	Nasal Sinus Diseases, Bacteriology—J. J. Kyle, M. D.....	238-379
Lackenbach, F. I.—Federal Supervision and Licensure of Clinical Laboratories Under the Postal Regulations—A Public Health Measure	415	Neel, J. C., M. D.—Retroductions of the Uterus, With Especial Reference to Their Causation and a New Method of Treatment	372
Lackenbach, F. I.—Department of Pharmacy and Chemistry	34, 78, 167, 204, 248, 383, 421, 464, 494	Neurological Conditions in Children, A Con- sideration of Some—H. W. Wright, M. D....	243
Lane Lectures	492	Newmark, Leo, M. D.—Blindness Following Injuries to the Back of the Head.....	487
Law in the State of California, The Physician and the Adoption—S. A. Queen.....	68	New Advertisements—This Issue.....	247
Lead in "Akooz".....	495	New Licentiates	41
Leukopenia: Its Relation to Neuralgia—J. H. Catton, M. D.....	106	New Members	42, 84, 126, 168, 210, 258, 304, 344, 386, 426, 466, 498
Leukopenia: Its Relation to Orchitis—Case Re- port—J. H. Catton, M. D.....	53	New and Non-Official Remedies.....	34, 78, 167, 170, 204, 248, 383, 421, 464, 494
Leukopenia: Its Relation to Bronchitis—J. H. Catton, M. D.....	320	New Sections	303
Lippman, C. W., M. D.—Aneurysm With Ab- dominal Symptoms	296	Notice, Important—Medical Defense Indemnity	227
		Oath of Hippocrates.....	79
		O'Connor, R., M. D.—Why Corrective Lenses Often Fail to Give Relief in Headaches Due to Eye Strain.....	193
		Operative Cases, Pathological Specimens—G. F. Shields, M. D.....	295
		Ophuls, Wm., M. D.—Routes of Infection in Tuberculosis	272

Oral Hygiene—Care of the Mouth During Illness—J. S. Marshall, M. D.....	112	Bloodletting, Theory and Practice of—Rebman Co.....	254
Oral Hygiene From an Educational and Economic Viewpoint—G. S. Millsberry, D. D. S.	187	Blood Pressure: Its Clinical Application—Lea & Febiger.....	164
Orthopedic Association.....	119	Cancer of the Stomach—W. B. Saunders Co.	254
Orthopedic Surgery—J. T. Watkins, M. D....	233	Cancer Throughout the World, The Mortality From—Prudential Press.....	462
Organic Disease, Psychogenic Factors in—C. W. Mack, M. D.....	325	Candy Medication—C. V. Mosby & Co....	338
Orthopedic Surgery, Fracture of the Long Bones, and of Wounds Complicating Them—J. F. Watkins, M. D.....	291	Clinics of John B. Murphy—W. B. Saunders Co.	70, 164, 253, 339, 419
Our Libel Suit.....	169	Clinics, Medical of Chicago—W. B. Saunders Co.	253
Pacific Association of Railway Surgeons.....	417	Clinical Anatomy of the Gastro-Intestinal Tract—Longmans, Green & Co.....	30
Palate, Cleft, 3: Discussion of Operative Technique, With Illustrative Diagrams, Abstract of Paper—H. M. Sherman, M. D.....	296	Clinical Pathology, Basis of Symptoms—J. B. Lippincott Co.....	460
Parotid Gland, Complete Removal of Without Injury to Facial Nerve—J. H. Barbat, M. D.	115	Consumption, Its Prevention and Cure Without Medicine—Treat & Co.....	418
Paso Robles	209	Control of Hunger in Health and Disease—University of Chicago Press, 1916.....	461
Patent Medicine Suit, A Notable.....	385	Diabetes Mellitus, The Treatment of, With Observations Upon the Disease Based Upon One Thousand Cases—Lea & Febiger...	462
Patronize Those Who Patronize Your Journal.....	319, 371	Diabetes, Starvation Treatment of, With a Series of Graduate Diets as Used at the Massachusetts General Hospital—W. M. Leonard	117
Patronize Your Journal Advertisers.....	178	Diabetes, The Starvation Treatment of—W. M. Leonard	203
Patronize Those Who Support Your Journal.	180	Diagnostic Methods—C. V. Mosby & Co...	338
Physicians and Dentists, Attention.....	183	Diseases of Children—Lea & Febiger.....	493
Pierson, P. H., M. D.—Adequate Institutional Care of the Tubercular.....	177	Diseases of the Digestive Tract and Their Treatment—C. V. Mosby & Co.....	420
Pneumonia	209	Diseases of the Skin and the Eruptive Fevers—W. B. Saunders Co.....	69
Pope, S. T., M. D.—The Results of Thirty-five Transfusions	66	Diseases of the Skin—C. V. Mosby & Co..	163
Poliomyelitis, In the Paralytic Stage, Diagnosis and Treatment of—John A. Colliver, M. D.	352	Dictionary, Dorland American, Illustrated—W. B. Saunders Co.....	69
Poliomyelitis, With Reference to Contagiousness, Résumé—J. C. Geiger, M. D.....	413	Embryology, Anatomy and Diseases of the Umbilicus, Together With Diseases of the Urachus—W. B. Saunders Co.....	381
Postal Regulations, A Public Health Measure; Federal Supervision and Licensure of Clinical Laboratories—F. I. Lackenbach.....	415	Encyclopedia Medica, 2d Ed.—Macmillan Co.	460
Postal Savings	302	Exercise in Education and Medicine—W. B. Saunders Co.	30
Post-Mortem Examinations	172	Eye, Ear, Nose and Throat—Year Book, Publisher	460
Power, H. D'Arcy, M. D.—Case Recording....	94	Eye, Diseases of the—W. B. Saunders Co..	419
Power, H. D'Arcy, M. D.—Report of the Committee on the Effects of Athletics on Pupils	220	Fractures and Dislocations, A Text-Book of—With Special Reference to Their Pathology, Diagnosis and Treatment—Lea & Febiger	338
Program Committee	69	Fractures, Treatise on—J. B. Lippincott Co.	299
Program, Provisional—State Society, 1916. .	108	General Medicine—Year Book Publisher....	298
Program, State Medical Society—Fresno, 1916	151	Gynecology—W. B. Saunders Co.....	462
President, Address of the—H. M. Sherman, M. D.	215	Infant Feeding—A Handbook—C. V. Mosby & Co.....	339
Pre- and Post-Operative Care—Olga McNeile, M. D.	189	Infectious Diseases, The Treatment of Acute—Macmillan Co.....	165
Principles and Problems of Industrial Accident Work—M. R. Gibbons, M. D.....	470	Infections of the Hand. Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hands and Forearms—Lea & Febiger.....	381
Prostatitis, Prognosis of the—Melville Silverberg, M. D.....	60	Intestinal Putrefactions, Clinical Studies of Enterocolistic—Snow & Farnham Co....	460
Psychopathic Hospitals, The Need of in Large Cities—H. W. Wright, M. D.....	17	Kidneys and Urinary Bladder, Practical Cystoscopy and the Diagnosis of Surgical Diseases—W. B. Saunders Co.....	255
Psychology, Mentally Different—Department in Los Angeles City Schools—Laura B. Bennett, M. D.....	101	Kinetic Drive; Its Phenomena and Control—W. B. Saunders Co.....	463
Psychoses Infection and the Symptom-Picture of Mental Confusion—A. W. Hoisholt, M. D.	392	Laboratory Methods—C. V. Mosby Co.....	164
Pyloric Stenosis, Congenital—Alanson Weeks, M. D.	317	Materia Medica, Text-Book for Nurses—G. P. Putnam Sons.....	163
Public Health Department, Another Rap at..	249	Mayo Clinic, Collected Papers of—W. B. Saunders Co.....	460
Public Health Service, Surgeon General's Annual Report	83	Mechanistic View of War and Peace, A—The Macmillan Co.....	29
Public Health Service, United States.....	83, 425	Medical Clinics of Chicago—W. B. Saunders Co.....	255, 299, 419, 461
Publications:		Medicine, A Treatise on the Principles and Practice of—Lea & Febiger.....	203
Aftermath of Battle, The—Macmillan Co....	203	Memoirs of a Physician—Pubs. Knopf.....	418
Alcohol, Hygiene and Legislation—The Goodhue Co.....	339		
Anesthesia, Art of—J. B. Lippincott Co....	340		
Anesthesia, Local With Surgical Operations—Surgery Pub. Co.....	252		
Applied Immunology—J. B. Lippincott Co..	164		
Bandaging—W. B. Saunders Co.....	117		
Biology Chemistry, Quantitative Laws, In—G. Bell & Sons.....	203		
Blood, Harvey's Views on the Use of the Circulation of—Columbia University Press	300		

Mosquito Control in Panama—The Eradication of Malaria and Yellow Fever in Cuba and Panama—G. P. Putnam Sons.....	252	Register and Directory.....	109
Nitro by Hypo—Willows Magazine Co.....	203	Report of Case—Paul S. Campiche, M. D.....	146
Nervous Children, Prevention and Management—Richard Badger, Boston.....	255	Reinhardt, Mrs.	256
Neurology and Psychiatry, Discases of the Nervous System—Lea & Febiger.....	117	Resigned84, 126, 258,	498
Nursing, Manual of Practical—C. V. Mosby & Co.....	380	Revoked Certificates.....	385
Obstetrics, Normal and Operative—J. B. Lippincott Co.....	418	Rocky Mountain Spotted Fever—Frank L. Kelly, M. D.....	407
Obstetrics, Practice of—Lea & Febiger.....	253	Roentgen Ray Plates, Ownership of.....	247
Obstetrics, Principles and Practice of—W. B. Saunders Co.....	254, 298	Roentgen Rays, With Personal Experiences in Gynecologic Practice—H. F. Kreutzman, M. D.	141
Painless Childbirth, Eutocia and Nitrous Oxid-Oxygen Analgesia—Forbes & Co.....	493	Roentgen Treatment of Localized Pyogenic Infections With Report of Eight Cases—H. E. Ruggles, M. D.....	486
Pathology, A Text-Book—W. B. Saunders Co.....	204, 492	Rogers, A. R., M. D.—The Urgent Need for a More Adequate Treatment of Syphilis.....	153
Pellagra—W. B. Saunders Co.....	299	Roth, L. J., M. D.—The Pathological Anatomy, Symptoms and Diagnosis of Renal Tuberculosis	366
Physical Diagnosis, Principles and Practice of—W. B. Saunders Co.....	254	Rubeola—W. W. Behlow, M. D.....	198
Practical Massage and Corrective Exercises—F. A. Davis Co.....	493	Ruggles, H. E., M. D.—Roentgen Treatment of Goitre	289
Public Health Protection, American—Bobbs-Merrill Co.....	300	Ruggles, H. E., M. D.—Roentgen Treatment of Localized Pyogenic Infections With Report of Eight Cases.....	486
Public Health, The New—Macmillan Co.....	255	Safety First	125
Radium, X-Ray and the Living Cell—G. Bell & Sons.....	460	Salvarsan and Neosalvarsan in Tropical Diseases—Herbert Gunn, M. D.....	481
Saunders Catalog—W. B. Saunders Co.....	70	Salvarsan, Present Status of Treatment—Howard Morrow, M. D.....	183
Senescence and Rejuvenescence—Pub. by the University of Chicago, Ill.....	165	Salvarsan, Second Thoughts About the Therapy—Wm. E. Stevens, M. D.....	264
Sexual Impotence—W. B. Saunders Co.....	338	Sanitation, Poverty Factor in.....	80
Skin Cancer—C. V. Mosby Co.....	418	Sawyer, W. A., M. D.—The Typhoid Fever Death Rate in California.....	110
Skin, Diseases of—C. V. Mosby Co.....	418	Secretary's Report—P. M. Jones, M. D.....	218
Skin and Venereal Diseases—Year Book Pub.	461	Septic Foci, Periodontal—F. S. Smith, M. D.....	356
Surgery, The Operations of—Macmillan Co.....	69	Septic Teeth—J. S. Marshall, M. D. (Continued from page 407, October issue).....	454
Studien über Darmträgheit (Stuhlverstopfung) ihre Folgen und ihre Behandlung—By Franz Xav. Mayr, Berlin; S. Karger, 1912.....	253	Sherman, H. M., M. D.—Address of President Sherman, H. M., M. D.—3. Cleft Palate: Discussion of Operative Technic, With Illustrative Diagrams	296
Syphilis, a Modern Problem—American Medical Ass'n.....	70	Shiels, G. F., M. D.—Reports of a Few Operative Cases and Pathological Specimens.....	295
Testing Methods, and Their Interpretation, Manual of Vital Function—Richard G. Badger	298	Smith, T. S., D. D. S.—Periodontal Septic Foci	356
Trachoma: Its Prevalence, Its Effects Upon Vision and the Methods of Control and Eradication—Pub. by National Committee for the Prevention of Blindness.....	462	Smith, Wm. B., M. D.—Epidemic Cerebro-Spinal Meningitis	333
French, Those About—Macmillan Co.....	338	Smith, Wm. B., M. D.—Industrial Hernia.....	351
Tuberculosis, Pulmonary—Lea & Febiger..	300	Snyder, J. R., M. D.—Diagnosis of Malaria..	145
Tuberculosis, Pulmonary, Rules for Recovery From—Lea & Febiger.....	418		
Venereal Diseases, The Biology and Treatment of, and the Biology of Inflammation and its Relationship to Malignant Disease—Lea & Febiger.....	339	Society Reports:	
What to Eat and Why—W. B. Saunders Co.....	30	Alameda County.....31, 70, 118, 156, 417, 456,	489
Quarantine, National and Its Function—A. C. Reed, M. D.....	192	Fresno County.....118, 157	
Queen, S. A.—The Physician and the Adoption Law in the State of California.....	68	Humboldt County.....157	
Rabies in California, A Statistical Study in—J. C. Geiger, M. D.....	276	Kern County.....31	
Rabies, Human Cases of and Their Treatment—J. C. Geiger, M. D.....	230	Los Angeles County.....72, 121, 158, 335, 489	
Rabies, Under Control in California, Is—J. C. Geiger, M. D.....	58	Marin County.....118, 157, 294, 381, 491	
Railroad "Days".....	209	Mendocino County.....200, 294, 381, 490	
Read, J. Marion, M. D.—The History in Group Study	369	Placer County.....32, 294	
Read Your Journal Advertisements.....	197	Riverside County.....200	
Recent Work in Epilepsy—Edward W. Twitchell, M. D.....	483	Sacramento County.....32, 119, 158, 200, 250, 334, 381, 457	
Rectal and Colonic Disease, in Life Insurance Examination—A. J. Zobel, M. D.....	410	San Diego County.....119, 335, 457	
Red Cross Stamps.....	35	San Francisco County.....32, 73, 120, 160, 201, 251, 295, 417, 457, 491	
Reed, A. C., M. D.—National Quarantine and Its Function	192	San Joaquin County.....32, 71, 119, 157, 200, 250, 334, 458, 491	
		Santa Barbara County.....33, 71, 119, 335, 458, 491	
		Siskiyou County.....33, 251, 458	
		Solano County.....200	
		Stanislaus County.....120	
		Ventura County.....33	
		Something to Remember.....	156
		Spleen, Concretions of the—Benjamin Jablons, M. D.	103
		Silverberg, Melville, M. D.—The Prognosis of Prostatitis	60
		Sir Victor Horsley—An Appreciation—A. S. Lobingier, M. D.....	414

Social Health Insurance Act, The Proposed— D. M. Gedge, M. D.....	446	Tuberculin Therapy: Its Principles, Limitations and Indications—Walter C. Klotz, M. D.....	283
Social Insurance.....	302, 382	Tuberculosis, Are We Making Progress in the Early Recognition of?—G. H. Evans, M. D.....	20
Social Insurance Commission.....	468	Tuberculosis Meeting	344
Social Insurance County Committee.....	343, 423, 465, 489	Tuberculosis, Non-Resident Cases Uncared for.....	42
Social Insurance, Cooperative Medicine in Re- lation to—Jas. L. Whitney, M. D.....	432	Tuberculosis, Routes of Infection—Wm. Ophuls, M. D.	272
Social Insurance Inquiry.....	246	Tuberculosis, The Pathological Anatomy, Sym- ptoms and Diagnosis of Renal Tuberculosis— L. J. Roth, M. D.....	366
Southern California Medical Society.....	33	Tuberculosis and Poverty.....	246
San Francisco Polyclinic.....	32, 119, 458	Tuberculosis Story, A—E. M. Brown, M. D....	248
Stanford Clinical Society.....	417	Tuberculous, Indigent	81
Stanford University Medical School—Stanford Clinical Society	382	Twitchell, Edw. W., M. D.—Recent Work in Epilepsy	483
Stanford University Medical School.....	158, 120	Typhoid Fever Death Rate in California— W. A. Sawyer, M. D.....	110
State Board of Health, December Meeting.....	38, 79, 126, 166, 207, 340, 382, 459, 492	Typhoid Fever, Santa Barbara, A Water-Borne Epidemic of—J. C. Geiger, M. D.....	137
State Destroys Million Pounds of Food.....	301	Urology, Fuchsin Value of—V. G. Vecki, M. D.	349
State Journals and Advertising.....	343	United States Army, A Plea for Certain Med- ical Officers	206
State Society, Officers of Sections.....	381	Uterus, Retrodisplacements of the—Reference to their Causation and a New Method of Treatment—J. C. Neel, M. D.....	372
State Society Meeting—Fresno.....	71	Vaccines	42
Status and Standards of Dispensary Practice..	487	Vecki, V. G., M. D.—Course of Fresh Syphilis as Treated by the Newer Remedies.....	178
Stereopticon Loan Library.....	40	Vecki, V. G., M. D.—The Value of Fuchsin in Urology	349
Stevens, Wm. E., M. D.—Second Thoughts About Salvarsan Therapy.....	264	Vesical Neck, Contracture of the. Diagnosis and Treatment—A. B. Cecil.....	311
Streptococci Infections of the Skin—E. D. Chipman, M. D.....	472	Viavi and the University of California.....	169
St. Luke's Hospital Clinical Club.....	417	Vision, The Conservation of—G. H. Kress, M. D.	227
St. Luke's Hospital Clinical Club—Discussion of the Pathological Division—Drs. Knapp, Birtch, McChesney and Inman.....	374	Warning	301
Summer School, Graduate.....	220	War Department	303
Supplementary Report of Human Cases of Ra- bies in California—J. C. Geiger, M. D.....	482	Walters, P. R., M. D.—Fracture of the Base of Skull; Presentation of Patient.....	287
Surgical Patient, A Plea for Anoci-Association —A. B. Cooke, M. D.....	50	Watkins, J. T., M. D.—Conservative Treatment of Fractures of the Long Bones; Wounds Complicating Them—Paper in Orthopedic Surgery	291
Syphilis, of the Central Nervous System, Notes On—Thos. G. Inman, M. D.....	269	Watkins, James T., M. D.—Orthopedic Surgery	233
Syphilis, Fresh and the Newer Remedies—E. D. Chipman, M. D.....	179	Welty, C. F., M. D.—Mastoid Operation De- pendent Upon Pathology.....	25
Syphilis, Fresh Course of As Treated by the Newer Remedies—V. G. Vecki, M. D.....	178	Weeks, Alanson, M. D.—Congenital Pyloric Stenosis	317
Syphilis, Remarks on the Modern Treatment— H. E. Alderson, M. D.....	179	Weeks, Alanson, M. D.—Traumatism of the Brain	47
Syphilis, Treatment of in the Primary Stage— D. W. Montgomery.....	180	Whitney, Jas. L., M. D.—Co-operative Med- icine in Relation to Social Insurance.....	432
Syphilis, Urgent Need for a More Adequate Treatment of—A. R. Rogers, M. D.....	153	Willard, W. P., M. D.—Report of Cases of Malignant Testicle	134
Teeth, Septic—J. S. Marshall, M. D.....	405	Wright, H. W., M. D.—A Consideration of Some Neurological Conditions in Children..	243
Testicle, Malignant, Report of Cases—W. P. Willard, M. D.....	134	Wright, H. W., M. D.—The Need of Psycho- pathic Hospitals in Large Cities.....	17
Thyroid Insufficiency, the Inconspicuous Every- Day Forms—H. R. Harrower, M. D.....	184	Zobel, A. J., M. D.—Consideration of Rectal and Colonic Disease in Life Insurance Ex- aminations	410
Tonsillectomies, Two Freak Accidents During —H. S. Moore, M. D.....	487	X-Ray, Review of Recent Progress in—W. W. Boardman, M. D.....	24
Trachoma	36	X-Ray Society	72
Transfusions, Preliminary Tests of the Blood in —S. H. Hurwitz, M. D.....	318		
Transfusions, The Results of Thirty-five—Sax- ton T. Pope, M. D.	66		
Transfusions, Twenty-seven at St. Luke's Hos- pital—F. W. Birtch, M. D.....	240		
Tropical Diseases, Recent Victories in War....	125		
Troubled Part of the World, In—Leo Eloesser, M. D.	28		
Tubercular, Adequate Institutional Care of the —P. H. Pierson, M. D.....	177		

Most Important to You!

**Do Not Let Your Dues Become
Delinquent!**

**If You Do, You Lose the Legal
Protection of the State Society**

**Pay Your Dues Early and Don't
Take Chances**

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Fayette W. Birch, M. D.

René Bine, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Berling, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - -

Butler Building,

State Journal, - - -

San Francisco.

Official Register, - - -

Telephone Douglas 2537

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV JANUARY, 1916

No. 1

EDITORIAL NOTES

1916.

Another whole, clean, new book to write things in; and this time it has 366 pages—that gives us one day more to do something worth while. And let us see to it that we *do* do something worth while, on that extra day of this new year. The man who gets to the point where he thinks there is nothing in the way of betterment or improvement that he can put into himself or his work, ought to crawl off somewhere and die, quietly and unostentatiously, so as not to disturb the people who are trying to do things. It is a good world, though a bit troubled in spots just now, and there is such a lot to be done in it. So much to be done that one sort of loses patience with the man in the street who wants a nickle for a cup of coffee because he can't find any work! If he'd come around in the right place and time and really wanted to work, he could work himself to death. Let's all make up our minds that we are going to write some good things on these 366 pages of ours, this year, and first of all, let's write on the first page—and all the others—that we are going to be mighty careful that we do not speak uncharitably or carelessly in a slighting way, of the other fellow's work or treatment or operation or whatever it may be. You can't always tell what the other fellow had to contend with, you know. And then, every little while, just to remind yourself, write a memorandum to the effect that you can never believe a patient when he criticizes a doctor—for he does not know what the doctor was trying to do and he is not competent to express an opinion anyhow. And then, just to reduce our pride in ourselves and our own wonderful achievements, we might write another occasional memorandum to

ourselves, recalling some of our own blunders in diagnosis or treatment and some of the mistakes that we do not like to talk about in public; such things are quite wholesome, unless we are beyond all hope of redemption. Remember the old one—"Charity begins at home"—and add to it that you do not know what day you yourself may be sued for damages for alleged malpractice because some other fellow spoke thoughtlessly of your work; which, indeed, may not have been of the best, at that! No man is always doing his best work; but all men may *try* eternally to do it the best they are able; and that is probably all the good Lord would ask of any of us. And so, let it be a Happy New Year, and a prosperous New Year, and best of all, for all of us, everyone, a *better* New Year!

STATE SOCIETY—FRESNO, APRIL

18, 19, 20, 1916.

The annual meeting of the State Society this year will be a notable one, for many reasons. We had no meeting last year, owing to the fact that the American Medical Association came to San Francisco to meet with us and an overwhelming majority of our members—or, officially, delegates—expressed a desire not to have two meetings but to concentrate our energies on the A. M. A. meeting. The Society has not had a meeting away from the coast for a number of years; the last time was at Sacramento. It has not met in the San Joaquin Valley since 1898, when the historic battle of the umbrella and the pencil occurred, in Fresno. Incidentally, three of our members were arrested during that session, though it may be said in passing that none of them had committed any crime more serious than riding a bicycle on the sidewalk. In the 18 years which have passed, Fresno has grown beyond recognition; tall buildings have risen; a fine hotel has been built; miles on miles of asphalt streets and roads have been put in; highways and other roads have been made so that the whole valley has been brought into touch, one part with another, and automobiles by the thousand go their purry, gasey way or line both sides of the streets in endless rows. The Fresno Hotel is a delight. It is a concrete building with a large center court and contains sufficient rooms of suitable size to permit all the sessions of as many sections as the program committee may arrange, to be held simultaneously within its walls. It is run on the European plan and the restaurant is excellent. In December, the Secretary went to Fresno to see about the arrangements for the meeting, and found all these things; and that there was but little to arrange. The local committee, of which Dr. Aiken is chairman, has in hand a program of entertainment that will be very enjoyable to all and no one who attends this meeting will fail to go away with a pleasant memory of Fresno and the Fresnoians. It will probably be a large meeting, for all points are now easily accessible by the State highways, and very many of our members will find it a delightful trip to motor to Fresno, in April, when the country is at its best and prettiest. Dr. Ray Lyman Wilbur has been elected chairman of the Program Com-

mittee and those who desire to present papers should write to him, Lane Hospital, San Francisco. It is going to be a good meeting and you'll be sorry if you don't go.

FRACTURE RECORDS.

A short time ago the JOURNAL published a paper read by Dr. Thomas W. Huntington, officially representing the American Surgical Society, in which was presented a well worked out chart or scheme for recording all fracture cases with the end result indicated. It is a highly desirable thing to have some standard method of recording these cases and of following them up and noting the results after five years. The value of the work can only be made available if a standard form is used and so it is to be hoped that this standard will be generally adopted. When we remember that the largest percentage of total disabilities comes from fractures, it becomes evident that we should not spare any energy in devising ways and means for more carefully studying these disabilities and in endeavoring to secure, if possible, better results. These blank forms have been printed and can be bought at Shumate's pharmacies in San Francisco.

DR. MOLONY AND "THE HOG-TIGHT FENCE."*

Dr. William R. Molony, member of the Board of Medical Examiners, can evidently read and understand plain English writing. He has written a long letter of criticism for publication in the JOURNAL, which will be found in full on another page. Referring to some editorial matter in the September issue of the JOURNAL, Dr. Molony says, in part:

"The spirit of these articles not only tended to reflect on the integrity and loyalty of the Board in supporting the best interests of the medical profession in California, but also tended to create an impression that the members of the Board were false to their obligations in their administration of medical regulation in the State."

In the first contention he is wrong, because medical laws are not made or intended for the benefit of the medical profession in any way, manner or degree; in the latter contention and reading of the editorials in question, he is perfectly correct, for it would be evident to a blind man who could think, that the board has not been constructive in its administration and has not been active for the best interests and the proper protection of the people of the State of California. The Board, through its attorney, fathered a law which materially lowered the standard of protection; in its administration of that law, and partly through the instrumentality of Dr. Molony, it still further lowered the standards of protection. Dr. Molony helped Vanderburgh in removing a section of the "hog-tight fence" which the law had built up to keep the quacks and charlatans and drugless fakes from preying upon the sick and

injured citizens of California. Is that sufficiently plain? It is quite unnecessary to enter into minute details; the matter was set forth in the September issue and there is nothing to take back or explain. The editorials in question were written after a careful study of the minutes of the Board and indeed portions of the minutes were quoted, showing how Dr. Molony voted on the resolution which granted recognition to graduates of an Osteopathic school to apply for licenses to practice, not Osteopathy, but medicine and surgery. His review of the history of medical legislation in this State is childish; everyone who knows anything about it, knows that the trend of progress has been steadily downward so far as standards and requirements are concerned; and in this Dr. Molony seems to have helped—according to the record, and the record is the best evidence. The best he can say for his own work is that, with the reforms which the Osteopathic school *says* it has made and will make, it is about equal to a "Class C" medical school. And where, pray, are "Class C" medical schools recognized? The people of California owe no thanks to the Dr. Molonys; but the drugless fakers certainly do owe such a debt to them.

DR. WILLIAM OPHÜLS, DEAN.

It is a pleasure to announce, and it will be a pleasure to all his friends, and they are legion, to know that Dr. Ophüls has been appointed Dean of the Medical School of Leland Stanford Jr. University. Dr. Ophüls' kindness and good nature are no less great than his erudition, and during the years that he has been with us we have all grown more and more to know that his opinions are sound, his judgment always good and every tendency of his makeup toward that which is right. It is another pleasure to wish for Dr. Ophüls, what wish we know will be fulfilled, development in his school and the respect and friendship of his associates. And perhaps in this connection it will not be amiss to announce that Dr. Albion Walter Hewlett, who left Stanford a few years ago to become Professor of Medicine at Michigan University, has been appointed Professor of Medicine at Stanford University Medical School, to begin August 1st, 1916. Dr. Hewlett is an old friend to all of us and to Dr. Ophüls and we shall be glad to give him a cordial welcome home.

AMERICAN MEDICAL DIRECTORY.

The American Medical Association has sent out the first notices of the forthcoming edition—the fifth—of the American Medical Directory, or "The Blue Book" of the medical profession. It is sold for \$10, but the price, to those who order in advance, is \$8. The publication of a work of this character is a matter of great expense and it will always be published at a loss to the Association. Those who wish to take advantage of the two dollar rebate, had better send their orders in at once. Just address the American Medical Association, 535 North Dearborn street, Chicago, Illinois.

* This Ed. Note does not in any way refer to the splendid work done by the Board in prosecuting quacks.

OSTEOPATHIC INGENUOUSNESS.

A singularly illuminating paragraph is to be found on page 12 of Number 5 of Volume 10 of "*The Western Osteopath*," published by the California Osteopathic Association, Elkan Gunst Building, San Francisco. In an article referring to the College of Osteopathic Physicians and Surgeons, of Los Angeles, and signed by Robert W. Bowling Dean, we find the following delicious morsel:

"Our Board has thought it advisable to discontinue commissions formerly paid to those stimulating matriculations, believing that our friends would be anxious to speak favorably of us because of our merit, rather than for the small commissions offered."

This follows close upon the action of the Board of Examiners, which Dr. Molony helped along, allowing graduates of this school to apply for licenses to practice medicine and surgery. Can it be that there is any connection between the action of the Board of Examiners—and Dr. Molony—and the action of the Osteopathic school in stopping the payment of commissions for bringing in matriculants?

SOME ADVICE.

A short while ago the JOURNAL treated of the rights and duties of physicians in so far as they were not obliged to undertake to treat any patient if they did not want to; or must do their best if they undertook to do so. Having accepted a call, or agreed to treat a patient, the physician has entered into what is known at law as an implied contract; and the law will require of him that he live up to his part of it or give the patient redress if he does not do so. The law requires of the physician that he will *use* reasonable care, skill and good judgment. *Use* is the essential word, for no matter how much skill and ability the physician may have, let him be the greatest specialist in his line in the world, and if he neglects to use reasonable care, skill and good judgment in treating any single patient, that patient has cause of action against him. The plea of great or preeminent ability never excuses the slightest negligence or carelessness or forgetfulness. And this has been the law for at least six thousand years, so you can see it is no new thing. The law does not attach blame or penalty to the physician for a *mistake* in judgment or treatment; it does not hold anyone to be infallible. But it certainly does emphasize the difference between an honest mistake and negligence—and it punishes the latter by admitting recoveries. When a physician undertakes to treat and does treat a patient, he says, in effect, "I am possessed of the amount of skill, knowledge, ability and judgment which is possessed by the average man who practices medicine in my community or in similar communities and under similar circumstances in other parts of the country, and I will faithfully *use* my skill, knowledge, ability and judgment in treating you." If it can be shown that he, in fact, did *not* do what he undertook to do, then he is liable to the other party to the con-

tract, the patient. If he honestly did do what he undertook to do, and the result is nevertheless bad, or unsatisfactory, the law does not hold him liable; for the law contemplates the possibility of poor results in spite of best efforts and does not permit the mere *result* to be considered as indicating negligence. If he does not visit or see the patient often enough to properly guide the treatment, or if he vacates himself without giving the patient a chance to get another doctor, or if he sends another doctor who is not competent or who is drunk or the like, then he himself is liable to the patient; for he has not lived up to his contract. It behooves him to keep careful records of his visits, treatments and the like; for he does not know when he may be called upon to substantiate some time or date or act. A case involving \$2,500 award against the physician hinged upon the point as to whether he changed a dressing on a certain Wednesday or on the following Sunday; he could prove it to be the Wednesday and the judgment of the trial court was reversed and he was relieved of the penalty; and this he did from his visit book which he kept himself. Little things make big results; be very careful.

ON HOSPITALS.

The liability of hospitals is well recognized. They stand in relation to the patient, very similarly to the physician. When a hospital throws open its doors to receive and care for patients, and actually does receive and care for patients, it is a party to an implied contract and if it fails to live up to the letter of its part of the contract, it is liable to the patient in damages and the patient, or the estate, may recover. It says to the patient, in effect, "We will properly and carefully and skillfully, care for you and furnish you proper attention and food and nursing and guard you from unnecessary risks and generally safeguard your health under the direction of your physician, whose instructions will be faithfully carried out." If it fails to do these things, or is negligent, it is liable. A private hospital was held liable in damages for the burning to death of an old man when the building burned as the result of the negligence of the furnace-tender. A charity hospital was held liable in damages for the burning of a patient with a hot water bottle which had been prepared and put in her bed by a 14-year-old girl who had been told to do it by the cook. A hospital was held in an award of \$7,000 for allowing a nurse, by mistake, to administer mercury bichloride to a patient, with fatal results. The whole question of liability and recovery hinges upon due and proper care and the use of good judgment; if these things can be proved, no award will be allowed; but they must be well proved. The law deals very strictly with all undertakings involving the life and health of people, and has done so for many centuries. No one is required to have dealings with sick or injured people; but those who voluntarily do so, must do what they agree to do or pay the penalty. And the wisdom of the ages has said that this is right and should be so.

THE REPUTATION OF REMEDIES FOR SYPHILIS.

In the Medical Record for November 13, 1915, Dr. Douglass W. Montgomery of San Francisco discourses lucidly, learnedly, circumspectly, and altogether attractively on "Iodide of Potassium in Syphilis." The incentive, we may not be wrong if we say the provocation, to Dr. Montgomery's valuable and very readable article appears from the concluding paragraph: "As regards iodide of potassium the medical profession seems to be passing through an interesting period of therapeutic history. The newer methods of giving mercury, the brilliant effects of salvarsan, and the delicate check on the results of treatment afforded by the Wassermann reaction have aroused a great deal of interest and enthusiasm. The enthusiasm in regard to the physiology of the ductless glands and especially of the thyroid has also had, as has been shown, its effect on the attitude toward the therapy of the iodine preparations. Many men, however, express their enthusiasm not alone by being positive toward the object of their love or choice but by being strongly negative toward everything else. This temperamental attitude is to be deprecated in the practice of medicine."

It must have been the influence of temperament that elicited many years ago, when iodine had no rival but mercury, the assertion that "iodide of potash is a prescription, not a remedy." Were those the victims of illusions who saw, to use Dr. Montgomery's words, "gummatous, highly proliferative cutaneous lesions . . . often melt away under its use as if by magic"? who saw the drooping lid rise and the squinting eye straighten after the administration of a few grains, not per dose but in the entire course of the treatment? who saw the palsied limbs regain their power or the clouded mind again grow clear without the intervention of any other agent? To deny that such beneficent effects are remedial argues a strangely exacting disposition in the members of a profession who so often have no remedy at all, for the evils they are bidden to cure.

In these modern times, as Dr. Montgomery sets forth, there is a tendency in some writers on the subject to deny or to belittle what iodine compounds *can* do because they do not do more. "These people," says Dr. Montgomery, "are often afflicted with the idea that a disease in order to be treated must be killed out, forgetting entirely the great truth that often the management of a malady, or an oblique action on it, is of much more importance than its annihilation." Among those so afflicted we should count Joseph Collins, who tells us in the Journal of the American Medical Association of July 10, 1915, that "the minds of physicians should be purged of the belief that we have in potassium iodide an anti-syphilitic agency." A stiff-necked and obstinate profession disregard his protestations and warnings and sorely try his patience by wilfully treating syphilis with iodide of potash, but he will meet persistency with persistency, and again give them to understand "that there is no more justification for considering potassium iodide an anti-syphilitic agency, in the strict

sense of the term, than there is for considering it an anti-tuberculous agency." And further, "There are two substances that kill the pale spirochetes—arsenic and mercury." From this sequence we infer that his grievance is that iodine preparations do not kill the spirochete and therefore can not enjoy his favor. Dr. Montgomery does not consider it to be absolutely established that "the iodides as administered are under no circumstances detrimental to the life of the invading spirochetes." But granting that the organisms are not killed by the iodine preparations, is it so certain that the doses of mercury tolerated by the human being do kill them in the patient's body? Are we to infer this effect of mercury from the changes it produces in the Wassermann reaction in the blood serum? The turning of a positive into a negative reaction is by no means a trustworthy sign of even an amelioration in syphilis; but can mercury do this? Since Dr. Montgomery wrote, Drs. Nelson and Anderson have written, and in the Journal of the American Medical Association for November 27, 1915, they say: "We hesitate to say that we consider the unaided mercury salicylate treatment of syphilis to be without value, but feel that its value is so slight as to make it unworthy of the time spent in its administration. If we accept the Wassermann reaction as an indication of the presence of syphilis and of value as a guide in the control of the disease by treatment, then it is certainly fair to believe that mercury salicylate used hypodermically in full doses over many weeks of time has little if any real influence on the disease."

So, if the iodine preparations must go by the board, by the same token the mercurials will follow. It is surely proper that the empirical acquisitions of the clinic should be tested in the laboratory and inquiry made there into their mode of action and the limit of their powers. But if the canons of criticism which seem now to be applied there be too readily accepted and allowed to influence clinical action, it is to be feared that the practitioner might allow himself to be deprived of very salutary agents. Huxley once said that Spencer's idea of a tragedy was a theory killed by a fact. There are perhaps more tragic possibilities involved in the rejection of fact by a theory.

**☞ BECOME FAMILIAR WITH THE
JOURNAL'S ADVERTISERS BY
LOOKING THROUGH ITS PAGES
EACH MONTH.**

ORIGINAL ARTICLES**LARYNGEAL DIPHTHERIA; OUR KNOWLEDGE OF IT UP TO DATE.**

By W. W. BEHLOW, M. D.

Diphtheria of the larynx, also known as membranous croup, may be associated with the faucial type of the disease or may occur without any involvement of the throat structures. The ordinary clinical features of faucial diphtheria are lacking in the laryngeal type. This is due to various factors, chief among which are the rapid course of the disease often producing asphyxia before other constitutional signs of diphtheria appear; and site of the local infection, the laryngeal mucous membrane not absorbing the toxin as rapidly as does the faucial mucous membrane.

Symptoms: The onset is usually slow and gradual. The patient presents symptoms of a laryngitis excepting that the constitutional signs are not pronounced. There is usually a slight fever. The voice is hoarse, the cough is brassy or metallic. These symptoms gradually increase in severity. The patient becomes dyspneic and cyanotic. There is increasing stridor, with retraction of the intercostal spaces and the substernal and supraclavicular spaces. There is complete aphonia. Unless relieved the patient dies from suffocation and exhaustion.

Differential Diagnosis: Foreign body in the larynx will give signs of obstruction. They are usually sudden following the inspiration of the foreign substance. The history, the sudden onset, the absence of increasing obstruction will aid in making the proper diagnosis.

Acute catarrhal laryngitis is usually preceded by acute catarrhal symptoms elsewhere. In a typical case of this type of laryngitis with suffocative symptoms the diagnosis is not difficult. The sudden onset of the attack in the night, the loud metallic cough, and the heightened temperature are sufficient to differentiate this disease from the slow progressive laryngeal stenosis of laryngeal diphtheria.

Treatment: Antitoxin in sufficient dosage is indicated as early as the diagnosis is made. Although a laryngeal examination may be made to determine the presence and the extent of the membrane, it is not necessary in most cases. Inasmuch as these cases are usually seen late in the disease, the dose of antitoxin should be sufficient to take care of all the toxin present. Thirty to forty thousand units subcutaneously will usually suffice. However, no standard dosage can be recommended for general use. If the symptoms are very severe as shown by the rapid heart, the exhaustion, the cyanosis, and the marked stridor, immediate steps must be taken to relieve the patient. Such measures are intubation or tracheotomy. One should never wait too long before performing these operations. The continued strain may be too much for the patient. It is better to intube too early than too late.

Intubation has almost universally superseded tracheotomy as the primary operation for the relief of this type of stenosis of the larynx. It is extremely rare for tracheotomy to succeed where

intubation has failed. There are cases where the membrane has extended down the larynx into the trachea and in such instances intubation may fail. Where a patient requires a tube after the acute symptoms have passed and where repeated reintubations have been needed, tracheotomy is indicated. Nevertheless, a tracheotomy set should be on hand whenever an intubation is to be performed.

If the tube is not expelled before the fourth day it is advisable to remove it. Reintubation may be necessary. Broncho-pneumonia is a frequent complication of both intubation and tracheotomy. The swallowing of a tube need cause no alarm, as the tube is readily passed without causing any disturbance.

It has long been stated that the broncho-pneumonias following intubation are due to inhalation of food. A properly fitting tube will cause no inconvenience in taking proper food. Liquid diet is indicated; soft solids may be better taken in some cases.

Local measures such as steaming have very little if any good effect upon the process. Plenty of cool fresh air is desirable, but care should be taken not to expose the patient.

The operations discussed above require a specialist in that particular branch of medicine, one who can intubate and extubate readily. The best place for such a patient is in a hospital where trained physicians, nurses especially educated in such work, and ability to meet emergencies, are found.

Prognosis: Laryngeal diphtheria is extremely fatal in the first two years of life. The most frequent cause of death is broncho-pneumonia.

Conclusions: Laryngeal diphtheria is very fatal in infancy and early childhood. An early diagnosis and early administration of antitoxin in sufficient dosage will prevent the necessity of operative measures. Intubation should not be delayed too long, as the exhaustion of the patient will then offset the good of the operation. A diphtheria hospital with trained staff of physicians and nurses is the best place for the treatment of patients suffering from laryngeal diphtheria.

1916 PROGRAM COMMITTEE

DR. R. L. WILBUR,

Lane Hospital, San Francisco

is Chairman

— and —

DR. H. E. ALDERSON

is Secretary

of the Program Committee for the

Next Annual Meeting

of the

STATE SOCIETY, FRESNO**APRIL 18, 19, 20, 1916**

LOCAL ANESTHETICS.*

By GRANVILLE MacGOWAN, M. D., Los Angeles.

I shall endeavor to present this subject to your Society in a practical manner, so that those of you who are not familiar through experience, may comprehend with what ease and efficiency the sensory nerve supply to any given zone of the body may be blocked temporarily, but yet for a sufficient length of time to allow of the satisfactory performance of almost any surgical operation, without loss of consciousness and without inconvenience to the patient.

In considering the subject of local anesthesia, no account need be taken of the precocain age, for until the discovery of the anesthetic properties of this remarkable drug, no dependable local analgesic existed. The most efficient methods of obtaining lessening of pain locally before this event were by the breaking up of the conduction of the sensory nerves, and the production of anemia, by the pressure of ligation, and by means of cold, by freezing the tissues with a spray of ether, or some other volatile hydrocarbon, usually bromide or chloride of ethyl. The former never became popular because of its uncertainty and incompleteness and danger to the life of the part; the latter is only applicable to very minor operations, and even in these, pressure upon, or pulling of the tissues, is apt to cause intense pain; except for the opening of boils or abscesses it need no longer be considered.

It was the invention of the hypodermic syringe by Rhyne in Ireland in 1845 and its subsequent perfection by Pravaz in France, a few years later, that gave to us the method, but not the means, of producing a true local anesthesia, which came only with the advent of cocain; and it was the necessity for the elimination of the unlovely and dangerous qualities of this drug, that gave rise to the long research in synthetic chemistry which discovered a series of substitutes, some less poisonous constitutionally, like beta eucain; but none so locally un-irritating, and none giving such a prolonged anesthesia, until the advent of novocain, which seems to possess all of the qualities to be desired in a local anesthetic.

Naturally, inasmuch as the skin is the most sensitive of all the organs of the body to pain, any drug to be a satisfactory local anesthetic must primarily be capable of producing a perfect anesthesia of any portion of the skin, and retain its inhibitive power for a reasonable time, without disagreeable after effects, either constitutional or local. Secondly this drug in solution must be capable of inhibiting the sense of pain in any other organ which is touched or pulled upon. The various body structures, and the individual organs, differ very greatly in their response, upon injury, to the pain sense. Those portions of the skin most abundantly supplied with tactile corpuscles, or sensory nerve endings, like the face, the palmar surface of the fingers and toes, and the immediate neighborhood of the mucous orifices are notoriously much more tender than the thick skin of the back, the palms and the soles; the inner surface of the thigh

and arm is more sensitive than the external. The subcutaneous cellular tissues are insensitive except where contact is made with the sensory nerves ramifying in them; the fascia of muscles carry the nerves distributed to the muscles, and when disturbed are naturally the more painful of the two. Tendons are insensitive, but their cellular sheaths are painful when pricked with the needle. Pain is easily aroused in the periosteum, but when this is well anesthetized little or no pain is felt in the bone, which it covers. Joint capsules are often exquisitely sensitive, synovial membranes moderately so, when not inflamed. The mucous membrane of the mouth is only moderately sensitive, while that of the nose cavities is often extremely so. The pharynx is only moderately painful, the esophagus less so, and the mucous membrane of the stomach and intestines may be handled and cut, and burned, with little or no complaint—these organs become painful only through over-distention or interference with their peristaltic wave. The mesentery and the lesser omentum may not be pulled upon or crushed without causing pain. The healthy vagina, bladder, and uterus, are comparatively insensitive; the urethra is often exquisitely sensitive. The parietal pleura and the parietal peritoneum are often painful to the slightest touch, while the visceral layers of these serous membranes are without the sense of pain. The lungs and the liver are both insensitive; the kidney hurts very little when touched, but pulling on its pedicle, or disturbance of its fatty capsule, is painful. The ovary is comparatively insensitive except when crushed; but the testicle and cord must be very perfectly anesthetized before being handled. The hemispheres of the brain and the dura covering them are insensitive.

A sufficiently marked sense of pain is thus seen to be present in all of the organs of the body except the brain, the lungs, and the abdominal viscera. The brain apparently requires the notice of a peripheral stimulus before its receptive cells take cognizance of pain; and if the message be interrupted by the blocking of the peripheral sensory nerves, rendering its receipt by the central organs controlling the pain impossible, there can be no pain. This may be accomplished in one of four ways:

First, by the drugging of the receiver at the central station, which takes place in the general anesthesia of ether or chloroform narcosis.

Second, by the paralysis of the conducting tracts in the cord, shorting the wires in the circuit, as seen in the anesthesia induced by subarachnoid injections of tropacocain, novocain or stovain.

Third, by the paralysis of the peripheral nerve endings, the cutting out of the sending relay, either by the infiltration of all of the tissues in the immediate neighborhood of the field of operation, infiltration anesthesia, or by the blocking of all of the nerve trunks supplying the entire region, by injections of anesthetic solutions into the tissues surrounding them at their point of exit from the cranium or the vertebræ, or at the point of their centrifugal branching for final distribution, where they approach the surface of the body and can be conveniently reached by the needle: conduction anesthesia.

* Read before the Orange County Medical Association, September, 1915.

Fourth, by their direct introduction into an artery or vein.

A local anesthetic to be valuable must not of itself be a cause of pain, either before its action is established, or after it has ceased. No one of the group is used pure; solutions are requisite, and to obtain from these solutions their full anesthetic influence without injury to the tissues, they must be made conformable to the laws of osmotic tension; they must have approximately the same osmotic pressure as the juices which bathe the body cells; they must be isotonic with these fluids. The simplest method of determining the osmotic tension of any watery solution of crystalloids is to ascertain its freezing point. The freezing point of human blood, the source of all the other body fluids, is 0.55, 0.56. Any watery solution of this freezing point can be applied directly to mucous membranes, denuded surfaces, the cavities of wounds, or injected into the tissues, without injury to them, and without causing pain, either at the time or after. Watery solutions with a freezing point below 0.55 used in a similar manner will cause a prolonged tumefaction of the tissues; those with a freezing point above cause a shrinkage or dehydration of the tissues. In both there is a disturbance of osmotic tension; in both pain will be noticed. It has been determined by many experiments that 0.9% solution of common salt has a freezing point 0.56 and is approximately isotonic with human fluids.

In the preparation of solutions for local anesthesia this should be borne in mind, the higher the percentage of the anesthetizing agent used, the less the quantity of sodium chloride will be required to bring it up to the isotonic standard, and the opposite obtains also.

The anesthetic property of various chemical compounds is associated with certain groups of atoms inherent in the molecule which Ehrlich has named *anesthesiphore*. The other groups of atoms can be easily replaced. After the working out of the chemical formula for cocaine it was comparatively easy, by applying this principle of replacement of atomic groups, to construct synthetically many new anesthetics, the first of which was eucain, and, as these were tested out by clinical application, their virtues and defects discovered, weighed, and classified, the search was kept up until at last one which had few defects and many virtues, was found.

In order for a local anesthetic to be efficient it must not be absorbed rapidly from the tissues; it must be able to paralyze the nerve cells in very dilute solutions and it must be but remotely a systemic poison.

At the present time such agents found in the market are cocaine and its direct relatives; a and b eucain; holocain; aneson and akoin; the orthoform group, orthoform, new orthoform, nirvanin, anesthesin, subcutin, propaesin, zykloform; the amido alcohol group, stovain, alypin, novocain; and antipyrine, and chloride of quinine and urea.

The oldest of these is cocaine. First discovered in 1859, it was not until 1884 that Dr. Karl Koller of Vienna directed the attention of the

medical profession to its remarkable anesthetic properties, when applied in a 4% solution to the conjunctiva. Its use was rapidly taken up in the surgery of the nose, throat, rectum, and urethra, by direct application of 5% to 20% solutions to the mucous membrane of the parts involved. Later, largely through the experimental work of Corning, Wolfner, Reclus, and Schleich, its use was extended to the performance of operations of all sorts in general surgery and dentistry, by injections of its solutions into the tissues. Very popular at first, the frequent occurrence of cases of acute poisoning and death, the observed danger of the formation of a drug habit, its irritating effect upon the tissues, even when dissolved in isotonic salt solution, the impossibility of sterilizing it in solution without deterioration and the short duration of its analgesia, caused it to be first neglected, and then abandoned, as a local anesthetic, except in eye and nasal surgery, and sometimes in urethral operations, where the newer and safer anesthetics are inactive.

Isotonic solutions of this drug are used as a standard of comparison in testing out the value of other local anesthetics. This is done by the means of forming wheals in the skin by injecting the two solutions into its epithelial layers close to each other, and noting the effects upon sensation, the rapidity with which anesthesia supervenes, its duration, and whether it follows the spread of the wheal, the time taken for its disappearance, and the amount of after irritation.

Tropacocain, a synthetic product, is a white crystalline powder readily soluble in water and in blood serum. The salt in use is the hydrochlorate. Its anesthetic properties are not destroyed by boiling. It would be a useful local anesthetic in the surgery of the eye if we did not have better ones. It lacks the vasoconstrictor properties of cocaine. It must be used in much more concentrated solutions to obtain the same amount of anesthesia; it is much more irritating to the tissues, and its effects are of much less duration. It is very much less poisonous than cocaine, but like that drug, when absorbed from the tissues, kills from paralysis of the respiratory centers; if injected directly into a vein, by cardiac paralysis. It is the ideal agent for spinal anesthesia—I have been using it now for about fifteen years, and never but once have seen any really alarming symptoms of poisoning from it. In this case the injection was made at the level of the first dorsal vertebra, and the patient, afflicted with melancholia, had threatened suicide a number of times. With the advent of the anesthesia there was an apparent paralysis of the accessory muscles of respiration, she stated that she was smothering and refused to try to breathe. The tongue had to be drawn forward, and artificial respiration kept up for thirty minutes. I have never been quite sure whether the drug caused total respiratory paralysis in this case, or whether the woman took advantage of the symptoms to accomplish her desired wish, for subsequently she upbraided me well and often for not having permitted her to die then.

I give from 6 to 12 centigrams of the dry powder, dissolved in the spinal fluid. The anes-

thesia will last from forty-five minutes to two hours. The muscular relaxation is absolute, which makes it particularly valuable for anesthesia in the surgery of the pelvic organs in the male.

Eucain B. A synthetic product designed to replace cocain, beta eucain does not differ widely from this alkaloid. As a protoplasmic poison it produces when absorbed from the tissues, the same train of symptoms, but the dose required is greater; as a local anesthetic it is, in solutions of the same concentration, slightly less powerful; it diffuses not so well, and is locally more irritating in its effects. Its solutions are stable and may be sterilized by boiling; their maximum strength should not exceed 2%. Its use to-day, is confined to dentistry and to work in the nose.

Akoin, a white crystalline powder of bitter taste. Its isotonic solutions injected produce an anesthesia of the skin of very long duration; that following the use of concentrated solutions, 1% to 5%, lasting for several hours; but it is destructive even in weak solutions. It is readily decomposed by contact with alkalis; is a dangerous poison, and aside from special ophthalmic surgery should not be used.

Holocain. An amido compound prepared from phenacetin, is used only by instillation of 1% solutions in the treatment of corneal ulcers and removal of foreign bodies from the eye inasmuch as it anesthetizes without dilating the pupil, producing dryness of the cornea, or preventing bleeding.

Chloretone, Anesol. A white camphor-like powder formed by the action of kalium hydroxide upon chloroform and acetone, first introduced as a substitute for chloral. This drug enjoyed a certain popularity as a local anesthetic about ten years ago. Its irritating properties do not permit of its use for infiltration anesthesia. It has a value as a pain killer in inflammatory lesions of the stomach. As a local application to external abraded surfaces I have found it an excellent agent to promote loss of clients.

The anesthetics of the orthoform group are amido-oxy-esters. None are readily soluble in water excepting nirvanin, a white crystalline powder, which in isotonic solutions, of 1 to 5 per cent., has been used, by myself and others, satisfactorily for the production of limited infiltration anesthesia. It has a use in dentistry.

The other members of the group, orthoform, anesthesin, subcutin, propaesin and zykloform, are all slightly soluble powders with anesthetic properties, when brought in contact with exposed nerve filaments or endings. They are used upon the skin in dusting powders or salves; in the rectum or vagina as suppositories or as salves. They are useful also in the nose, throat, and the intestinal tract, especially the stomach. The most efficient of the group is anesthesin, a fine white crystalline substance, with marked anesthetic properties, when applied to mucous membranes, the abraded cuticle, or exposed nerve tissue anywhere. For a number of years I have used it extensively as a powder dusted upon painful granulating wounds; in a 2½% to 10% ointment in itching diseases of the

skin, and burns; in 0.5 doses in painful rectal, vaginal, or uterine disease, made up into suppositories; and in 0.5 to 1 gram doses with bismuth, in painful affections of the stomach and upper intestinal tract. I have never seen it produce any irritation, but in granulating wounds the continuation of its use, after the disappearance of the pain, gives rise sometimes to a grayish exudate, which delays the formation of epithelial covering. On account of its slight solubility the powder as it comes in commerce should always be finely ground in a mortar before being made into a salve or incorporated in a suppository.

Propaesin and zykloform possess no advantages over anesthesin. Orthoform has been superseded by anesthesin and is now very little used, chiefly because it undergoes, in contact with the body fluids, a disintegration process resulting in dermatitis of various grades, and at times in death of the skin. It sometimes also causes unpleasant symptoms similar to cocain poisoning.

The further search for the ideal local anesthetic led to the observation that the alkaline esters possessed such properties. Out of this arose the discovery of stovain, alypin and novocain.

Stovain has been highly extolled by Jonnesco, Reclus and members of the French faculty as the best agent for spinal anesthesia. I have had no experience with its use for this purpose, being deterred by reason of the considerable satisfaction had in the use of tropacocain, which is less poisonous; and by the many unfavorable reports upon it I have noticed in foreign journals; and by my observation of its irritating and painful effects, even in weak solutions, when used for infiltration anesthesia. In one per cent. solutions I have been much pleased with its action as a local anesthetic when used by instillation for instrumental examination of the urethra and bladder. I employ from 10 to 15 cc. for that purpose.

Alypin is chemically a close relative to stovain. It is readily soluble in watery solutions. Used intradermically it is much less active than cocaine and much more irritating; and hence, though it be less poisonous, is unsuited for use for infiltration anesthesia. Its toxic symptoms are similar to those of cocaine. Accidents have been recorded from its use, but examination of the reported cases would lead me to believe that they were due to gross carelessness. Its use in the form of tablets placed in the posterior urethra through a special tube, for anesthetic purposes in operations about the neck of the bladder, though highly recommended by Bransford Lewis, is not without danger, and inferior to the instillation of from 20 to 50 cc. of a 1% solution, which should be allowed to act for fifteen minutes before instrumentation is attempted. For this purpose the nitric acid salt is to be preferred, as applications of silver nitrate do not decompose it. The anesthesia is often fully satisfactory for from 15 to 30 minutes. This anesthetic is of use also in nose, throat, and eye practice in 4% solutions; in the same class of cases in which holocain is superior to cocain.

Novocain is a white crystalline powder neutral to litmus, soluble in equal parts of water. The

salt in use is the hydrochloride. It is but feebly poisonous; its watery solutions in any concentration up to 10% are not irritating to the body tissues when they are injected into them; it may be sterilized and resterilized without marked effect upon its anesthetic properties, which are greater than those of any other drug used for local anesthesia, when combined with suprarenin, with the exception of cocain. It can be applied pure to the cornea and to freshly denuded surfaces without causing pain or subsequent edema. For infiltration anesthesia isotonic solutions of one-half, one, two and four per cent. are the most useful; greater concentrations are not necessary and should not be used, for though novocain is feebly toxic, as compared with cocain, it is still a poison, though in a very free use of it, ever since its introduction, I have never seen more disagreeable symptoms than a slight nausea, or a momentary faintness, following its use. It is not as satisfactory an anesthetic when used on mucous membranes; for eye and nose work, specialists generally prefer cocain. In the urethra and bladder I prefer the 1% solution of stovain or alypin nitrate.

Quinine in the form of the hydrochloride of quinine and urea in watery solutions of from 0.25 to 1 per cent., introduced into practice by Thibault in 1904, has not become popular, because of the formation of a fibrinous exudate in the tissues after they are infiltrated with it, which seriously delays the healing of the wounds. Development of tetanus has been noticed in wounds where this salt was used for infiltration anesthesia. Semple has advanced the theory that in the presence of tissue necrosis, seen so often after these quinine injections, the spores are carried from the intestinal tract by the leukocytes to the tissues prepared for their reception, and there develop.

Its one valuable quality is the length of time its anesthetic effects last—sometimes for many days. Taking advantage of this, I have at times used it for inhibiting pain in intense and persistently localized neuritis, and in blocking the sensation of itching in circumscribed and chronically thickened patches of eczema. Its success is not certain, but when accomplished is very satisfactory and sometimes curative. As is well known, Crile makes it a part of his anoci-association.

While we now have seen that there are many drugs of the phenol, benzoyl and amido-alcohol groups which when applied to mucous membranes, to the broken epithelium of the skin, or injected into the deeper tissues, produce more or less marked anesthetic effects, only one of them fulfills the requirements of a safe and effective local infiltration anesthesia, taking cocain as the standard. Such an agent must be relatively nontoxic; nonirritant at the time of use and afterward; soluble in water; capable of sterilization by heat; and not antagonistic to adrenalin. The only drug which has all of these qualities for infiltration and conduction anesthesia is novocain; but for application to unbroken mucous membranes, stovain, and the nitrate of alypin, are superior to it.

And this brings us to the discussion of another drug that has contributed in a most remarkable

manner to the success of local anesthesia—I refer to the one which its discoverer, Takamine, named adrenalin but which is marketed now under the further names of suprarenin, epinephrin, tonogen, paranephrin, arterenin homonephron, suprarenalin, etc.

These are all vasoconstrictors obtained from the suprarenal glands of land and amphibious warm blooded animals. The one exception is L. suprarenin, a synthetic product, a derivative of guaiacol. This product is cheaper, keeps better, may be sterilized by heat, and has about the same vasoconstrictor powers as the suprarenal capsular series, and for these reasons should be preferred for the preparation of solutions for local anesthesia.

Solutions of these drugs become brownish when exposed to light, and are said to be irritating and even poisonous when so discolored. They are dispensed in dark colored bottles. Unless the solutions are clear they should not be used.

It is remarkable in what dilute solutions this drug manifests its vasoconstrictor properties when injected into the tissues, and how widely it is diffused from the point of injection, carrying with it the anesthetic drug with which it is mixed. The anemia seems to be due to its direct action upon the smooth muscle fibres of the blood vessels. Five drops of the 1-1,000 solution added to each 100 cc. of the novocaine solution is all that is required to produce a working anemia of the most vascular parts; and its use produces no pain, no after hyperemia, and no interference with wound granulation; while its effects will last about an hour. In nonvascular tissues two or three drops will do in place of five. The dose is so small in infiltration anesthesia that no general symptoms may be expected from its use. Suprarenin is not a styptic but merely a vasoconstrictor. Even in these weak solutions while its action lasts it is powerful enough to entirely prevent hemorrhage from arterial branches of appreciable size which, when its power is removed by its absorption or destruction by the tissues, will bleed and cause considerable oozing, and even active hemorrhage. Hence it is necessary in all operations done under infiltration anesthesia, to ligate all blood vessels that are seen; this is especially necessary in those that run in muscle septae and fascia; to carefully close the wound, so as to guard against dead spaces, and where this cannot be done, leave some space for drainage, so as to avert the formation of hematoma.

Solutions of suprarenin should never be injected into tissues in which the circulation is markedly disturbed as it may cause tissue necrosis. It is also not fitted for use in plastic surgery where its vasoconstrictor properties may interfere with the life of the flaps. Of all the local anesthetics the only ones that are not incompatible with the physiological action of suprarenin are cocain and novocain. It is not, as many believe, used as an antidote against these poisons; but, by reason of the vasoconstrictor properties, acts like a ligature upon the part; or like the various tourniquets and clamps devised by Corning and others, in the middle of the eighth decade of the last century,

to confine the action of the cocain solution to the locality into which it was injected, and thus prevent its rapid absorption into the circulation, and favor its destruction by the tissues, before it can act as a general poison. In cocain solutions, the value of the suprarenin is the intensification of the power of a weaker solution, and the prolongation of the anesthesia.

In its experimental use with cocain it was soon noticed that the anesthetic action of the cocain was greatly intensified; its duration more than doubled; and its toxic action markedly inhibited; from these observations the deduction was quickly made that the required effect could be obtained by a greatly reduced strength of the percentage of the cocain, lessening the chance of toxic effects; while greatly increased quantities of the solution could be used, thus permitting the performance of more prolonged and extensive operations. But even with this, accidents occurred so frequently that the use of cocain for infiltration anesthesia has passed almost into desuetude since the introduction of novocain.

The action of suprarenin with novocain is nothing less than remarkable, as the purely anesthetic action of watery solutions of the latter is too short to be of great value, but when combined with the holding qualities of suprarenin, the ideal solution for local infiltration and conduction anesthesia is obtained. By its use very prolonged and extensive complicated operations can be and are performed every day with convenience and safety. As much as 900 cc. of a 0.5 per cent. solution has been used in such an operation. I have had occasion to use 250 to 300 cc. of a 1% solution and 200 cc. of a 4% solution repeatedly. It is to be remembered, of course, that much of the solution escapes during the operation.

One should never forget that both cocain and novocain are protoplasmic poisons, the one potent and dangerous, the other feeble in its action, and be prepared to recognize the toxic symptoms and deal with them properly.

Faintness, dizziness, pallor, disturbances of respiration, anxiety, delusions, muscular twitchings, tremor in mild cases; convulsions and respiratory or cardiac paralysis, and sometimes sudden death, in graver ones—form a syndrome of cocain poisoning that requires prompt attention. There is no direct antidote. The head should be lowered, and diffusible respiratory stimulants administered. Aromatic spirits of ammonia by the mouth, inhalations of aqua ammonia, sulphuric ether by the drop method, intramuscular injections of strychnin and camphorated oil, or intravenous injections of caffein and sodium benzoate or digalen. Where no adrenalin has been used with the cocain, an intravenous injection of not to exceed 5 drops of the 1-1,000 solution of the former will prove to be useful in combating collapse—larger doses are liable to produce pulmonary edema with hemorrhage. It is to be remembered that adrenalin is distinctly not an antidote for cocain poisoning. Where there is marked respiratory failure artificial respiration will be required. It is rare to see the alarming symptoms last more than an hour, but

the patient may require watchful care and bi-hourly stimulation for twelve hours.

In the surgery of the nose one is constrained to use strong solutions of cocain, five, ten and even twenty per cent. at times. They should be mixed with adrenalin, so as to set the cocain in the tissues, and the applicator should not contain an excess of the solution, then none of it will be swallowed. In the posterior urethra, surgical work sometimes requires a stronger local anesthetic than nitrate of alpin, stovain or novocain. It is necessary to view the parts as near as possible in their natural condition, and it is neither convenient nor desirable to give a spinal anesthetic, so cocain without adrenalin must be used by instillation. A 5% solution answers very well for this purpose; the quantity instilled should not exceed one cubic centimeter and it should be placed by means of a No. 7 French silk catheter directly back of the external sphincter. The anterior urethra may be filled with a 1% stovain or alpin solution.

Extent of the Application of Local Anesthesia in Surgery:—Aside from operations upon the mucous membranes of the nose, eye and throat, where the whole surgical world admits its superiority as a mode of anesthesia, and in painful but not very prolonged manipulations and surgical interferences with the mucous membranes of the bladder and urethra, it has been very difficult to convince the surgical world of the advisability, safety and superiority of the use of local anesthetics by injecting them into the parts to be operated upon. The real trouble is, I fear, that it appears to take more of the surgeon's time than general anesthesia does, as too much attention has to be paid to the patient, and the wounded surfaces handled in a more gentle manner. Of course, it has also had the prejudice of the failure of cocain anesthesia, before the advent of adrenalin, to combat. However, I wish to assure you gentlemen assembled here to-night that for some years past it has been a safe and efficient method of conducting all minor operations, except plastic ones; is capable of being applied at a moment's notice; very comforting to the surgeon, as it leaves him free from worry, and oftentimes affords him the assistance of the person he is operating upon; while it delivers the patient from the terrors of unconsciousness and the pain and shock during and after operation, inseparable from all surgery where the sensory impulses are not blocked.

Only illy trained children, very nervous and apprehensive people who prefer unconsciousness, and those whose tissue nutrition is of a very low grade make unsuitable subjects for local anesthesia.

Any operation upon the head, neck, limbs, chest, axilla, the penis, scrotum, testicles, the perineum in the male, all operations about the rectum where the distension of the tissues does not interfere with the proper observation of the lesions, exploratory operations upon the abdomen, the reduction of dislocations and the setting of fractures, may be done entirely satisfactorily by infiltration anesthesia. In the graver or more extensive operations it is better to have the patient mildly under the influence of morphia, or morphia and atropin, or morphia

and scopolamin, or pantopon, given hypodermically about an hour before the commencement of the infiltration anesthesia, as the narcotic inhibits fear, puts memory in abeyance, fosters indifference to injury and promotes a psychic state most favorable for operative interference.

Infiltration anesthesia. Exactly what does this term mean? Nothing more than that the tissues to be operated upon shall be so filled, by circumferential layers, with the anesthetic solution, that the sensory nerves shall neither perceive nor transmit sensory impulses; or that the solution be injected in contact with larger branches of nerve trunks at the point of their emergence into the skin and subcutaneous tissues—paraneural infiltration, often easily accomplished; or that the anesthetic solution be injected directly into a nerve trunk beneath its fibrous sheath—endoneural infiltration, a procedure which in a few instances, may be carried out with certainty by due attention to bony landmarks, but more often difficult to accomplish without special dissections. Further, the tissues may be saturated with the anesthetic fluid, by means of injections into an artery supplying the part, or one of the main veins draining it; either is applicable only to special cases in which general anesthesia is contraindicated.

Both endoneural and paraneural injections require accurate knowledge of nerve anatomy. He who combines this knowledge with the easily acquired skill of making circumferential injections properly, will do the most satisfactory work with local anesthetics. The method of circumferential injection, known as that of Hackenbach, is not to primarily infiltrate the tissues to be operated upon, but, entering sound tissues some distance away, establish, in the derma, a number of wheals, two, four or six, from which, as focal anesthetic points, the tissues within the field of operation are infiltrated in all directions with the anesthetizing solution, by means of long needles, passed perpendicularly, horizontally, and transversely between the points selected and beneath the skin; for if the nerves supplying the skin are anesthetized, when the operator is ready to cut the skin, it will be anesthetized also. The deep layers are supplied with the solution first. Use long needles and large syringes. Plunge the needle through the anesthetic points in the skin, marked by the wheals, as deep as the tissues are to be disturbed; infiltrate the fibrous tissues about the periosteum, the muscle layers and fascia first, by expelling the solution slowly as the needle is withdrawn, moving the point from side to side in the loose tissues. When the surface is reached repeat this, entering the needle at a different angle and proceed in this manner until the entire area of the skin enclosed within the wheals is undermined and filled with the anesthetic solution. It takes some time to accomplish this infiltration, but as it requires from five to fifteen minutes for the nerves of the part to be perfectly deadened by the anesthetic solution, no time is lost by this method which anesthetizes the deeper layers first.

Instruments required for this procedure are 5 and 10 cc. syringes, hypodermic needles from .25 to

.125 mm. in length, glass containers for the solution, and some Florence flasks in which to prepare the latter. The syringes must be either all glass of the Luer type, or metal and glass of the Record type, or all metal, so that they can be sterilized by boiling. It is difficult to buy a syringe that is absolutely suitable. The needles for the all-glass syringes do not always fit exactly upon the hub of the barrel, and the pistons are often not entirely perfect, so that under pressure, when the tissues are dense, there is apt to be a leak about the hub of the syringe; or a kick back of the fluid in the barrel along the piston; or at times the hub of the syringe will become dislodged from the needle, with the result of the loss of the fluid.

The Record syringe requires as much care as a baby. All metal syringes are better when one can get a good one, but one should not be bought on faith in the manufacturer. The piston handle should have a good ring, and the plunger should be tested out under pressure before the syringe is accepted. Other than straight needles are not necessary. The needles should be carefully inspected before using for points of rust or imperfections at the junction with the hubs, for they are easily broken; and if this should happen they are easy to lose in the tissues and difficult to locate even with the X-ray. It is better never to plunge the needle in fully up to the hub. The receptacles for the solutions should be glass, and together with the needles and syringes, should be sterilized by boiling in distilled water. Soda should not be allowed to come in contact with them as it decomposes both novocain and adrenalin.

Strength and Composition of Solutions Used for Infiltration Anesthesia. For our purpose we may as well forget that there are any other drugs suitable for this form of anesthesia, or rather analgesia, than novocain; and we may ignore all physical conditions, except that of the bringing of the drug in contact with the nerves of the part and holding it without irritation; the latter is, of course, accomplished by adding suprarenin to the novocain solution. Both of these drugs are supplied by the manufacturers in tablets which may be dissolved in normal salt solution in full or half strength (0.9 to 0.45) and sterilized by boiling in a Florence flask; 0.25, 0.5 and 1 per cent. solutions are the most useful for extensive infiltrations. Where the practice of the surgeon gives frequent opportunity for the use of local anesthesia, the novocain had best be bought in bulk, and 250 cc. of a 4% solution be prepared by dissolving the crystals in physiologic salt solution and boiling for ten minutes, and the flask closed with a stopper of sterile cotton, while still hot. Weaker solutions may be prepared from this by the addition of sterile normal salt solution when needed. The suprarenin is to be dissolved and sterilized and added at the same time, in the proportion of 1 mg. to 200 cc. of an 0.5 per cent. solution, 100 cc. of a 1 per cent. solution, 50 cc. of a 2 per cent. solution and 25 cc. of a 4 per cent. solution. If the 1-1,000 solution of adrenalin is used, add it from a freshly opened bottle which has been washed off with alcohol and sterile water, using a sterilized

medicine dropper, in the proportion of 10 drops to each 100 cc. of the solution.

I may say in closing that I have been much interested in infiltration anesthesia for twenty years, and have followed the experimental researches of those favorably situated for carrying them out—like Reclus, Corning, Oberst, Hackenbach, Bier, Crile, Cushing and Matas, and all of the time I have been quietly using it, moving from cocain to b. eucaïn, to nirvanin, to stovain and finally, from within a few months of its introduction, to novocain, all of the time with pleasure to myself in the work, and benefit to my patients in selected cases; and within the last few years, with a confidence born of experience, that the major number of the operations required upon the human body can be done under its influence without pain, shock or discomfort. I use it for all minor operations without exception. I am so well satisfied with it in urology that I use it always if I desire to open the bladder suprapubically for drainage or to remove a stone, and have come to regard the administration of a general anesthetic in feeble people, for this purpose, alone, as an unnecessary risk upon the part of the operator.

The carrying out of the blocking of the nerves requires often considerable anatomical knowledge, but none that should not be in the possession of any physician who practices surgery. To-day it is no longer necessary for each operator to make his own experience. The pioneer work has been done and none have contributed more to it than Rudolph Matas in this country and Professor H. Braun in Germany. In the monograph by the latter published in 1914, and in another by Carroll Allen, a pupil of Matas, published in 1915, both remarkably written, any one of you seeking further information upon this, to me, fascinating subject, will find it clearly set forth.

Bibliography.

- Local Anesthesia. Leonard Corning. 1886.
Schmerzlose Operationen. Schleich. 1896.
Local Anesthesia. Heinrich Braun. 1914.
Local and Regional Anesthesia. Carroll Allen. 1915.
The Chemistry of Synthetic Drugs. Percy May. 1911.

CLINICAL RECORDS.

III. THE LATER CLINICAL NOTES AND LIST OF ABBREVIATIONS.*

By EUGENE S. KILGORE, M. D., San Francisco.

In the notes of case progress there are two extremes to be avoided, writing too little and writing too much. The former is much the more common. When a patient is in the hospital several days or weeks his record should tell the complete story of his clinical progress; new symptoms and clinical findings should be accurately described and the opinions of the staff in regard to the diagnosis and prognosis should be noted at the time of the initial examination and from time to time afterwards. It is highly desirable for different members of the staff who study the case to write their opinions in the records. Before the record is completed it should state the condition of the patient on discharge, his destination, and the directions he has been given.

A less common failing but nevertheless a definite fault is to record too much. We have seen records kept by people so conscientious that, although the case remained in the hospital a long time and changed comparatively little, they would write practically a complete report of a physical examination every few days. The results showed a total lack of perspective and a vast jumble of statements which it would require the utmost patience to translate into a connected account of the case. An excuse sometimes made for such repetitions is that they insure frequent making of complete examinations. Our feeling is that the most desirable kind of work in the wards cannot be secured in this way, but that on the contrary such requirements inevitably encourage perfunctoriness and blindness to essentials. "Condition unchanged" written by one who is alert to follow his case carefully and to tell the complete story is more satisfactory than an extended note to the same effect. From the standpoint of students and interns also, it is of course desirable so far as possible to form habits which they will be able to continue in their practice.

In addition to notes of patients' progress, many reports of laboratory and other procedures have to be incorporated in the later notes (the laboratory sheet described in the last paper, it will be remembered, provided only for reports of blood, urine, sputum and feces). Red ink for laboratory reports is a convenience to the eye, but the superior lasting qualities of certain black inks¹ induced us to have these reports written in black and only the headings underlined in red. With the exercise of a little care in paragraphing and underlining, and if possible printing the headings, there is no difficulty in quickly finding the desired reports in the records. A further convenience both to the reader and the writer of the reports is to have standard ways of expressing in the fewest words routine laboratory findings. Sample reports of this char-

* Third article describing the clinical record system in the University of California Hospital. An article by Dr. J. L. Whitney and one by the writer on related subjects appeared in the Boston Medical and Surgical Journal of November 18, 1915. Reprints of the series when completed, together with record forms, etc., will be sent on request.

REMEMBER THE DATES

APRIL 18, 19, 20, 1916

MEDICAL SOCIETY,

STATE OF CALIFORNIA

MEETS IN

FRESNO, CALIFORNIA

acter are kept in the "ward reference book,"² from which the following are taken as examples. The capitalized headings are those which refer to laboratory tests; they would be underlined in red. The headings in dark-faced type are descriptive of ward procedures, and would be underlined in black: Doe, Jno. J.

Stomach Wash: 8 A. M., after 14 hrs. fast (had prunes at evening meal). Again 9 A. M., 60 min. after beginning to eat the test meal (2 sl. toast & 300 c.c. tea). Capacity: 1800 c.c. (amt. recovered). Inflation outline: ensiform to 2 cm. above umbilicus.

FASTING CONTENTS: 40 c.c. liquid, mucus & stale food including prune skins. Microsc.: Few bacilli; no yeast, sarcinae, blood or pus. Free HCl = 0. Lactic ac. present (FeCl₃ ring). Benzidin negative.

TEST MEAL: 150 c.c. 1/3 liquid, 2/3 finely divided food. Free HCl: 15 c.c. n/10 NaOH neutralizes 100 c.c. contents. Total Acid: 24 c.c. n/10 NaOH neutralizes 100 c.c. contents.

DUODENAL CONTENTS: 10 c.c. cloudy amber-colored alkaline fluid. Amylase, lipase and protease present.

Lumbar Puncture: Lying on left side. Pres. 20 cm. H₂O (Pfaundler). Sharp pain in left leg as needle was inserted.

SPINAL FLUID: 20 c.c. clear, colorless. Sl. stringy clot after one hour. Fehling's reduced. Sp. gr. 1015. Nonne & Noguchi neg. Wassermann neg. (L. S. S.*). Cell-count: 4 per cu. mm. (bld. count chamber). Smear: 95%—small mono. 5%—polyn.; few r. b. c.

Skin Tuberculin³:

	B	C	H	B. quot.	H. quot.
In 24 hours.....	6	4	5	1.50	1.25
In 48 hours.....	8	5	10	1.60	2.00

Eye Exam. J. B.*
WASSERMANN negative in blood serum, L. S. S.*

Lymph node excised from left axilla by Dr. T.....

PATHOLOGICAL REPORT: "Section shows" J. V. C.*

BACTERIOLOGICAL REPORT: "10 c.c. blood from med. vein, after 48 hrs. in broth showed no growth." J. V. C.*

Thoracentesis: Uneventful tapping with small syringe at angle of right scapula.

CHEST FLUID: 10 c.c. clear, straw-colored fluid. Light coagulum after 30 min. Rivolta sl. +. Sp. gr. 1016. Alb. 1% (Esbach). Smear: mostly reds. In 200 whites: Polys.=2%, lymphos.=98%. Culture: no growth. Pig.: neg. autopsy after 6 weeks (J. V. C.)*.

Abdomen Tapped in midline 5 cm. above symphysis.

ASCITIC FLUID: (same as above).

PHENOLSULPHONEPHTHALEIN TEST: 45 + 30 = 75%. 1 c.c. in lumbar muscles at 2 P. M. Urine after 70 min. shows 45%; in the next hour 30%.

Lactose Elimination—10 hrs. 20 c.c. 10% sol. intravenous at 11 A. M. Voidings at 1:30, 2:40, 4:30, 6, & 8 P. M. reduced Nylanders sol.; those at 9 P. M. and 1 A. M. neg.

K I Elimination—46 hrs. 0.5 by mouth at 2 P. M., Dec. 20. Voidings at 2, 4, 6, 8, 10, 12, P. M.; Dec. 21, 2, 4, 6, 8, 10 and 12 A. M., Dec. 22 positive to Sandow's test. Those at 2 & 4 P. M. negative.

Prominent paragraphs and underlined headings are also of importance in various clinical procedures other than laboratory technic. For example: "Blood Pressure in Arm and Leg," "Respiration Experiments." As explained in another communication,² such items, as well as symptoms, physical findings and many other clinical data are to be

cataloged on the large clinical index cards in a manner similar to the ordinary cataloging of diagnoses. The prominent headings are an aid in this cataloging.

Abbreviations used in the hospital records are expected to conform to the following list, which is also abstracted from the "ward reference book":

A ²	aortic second sound
ac.	acid, acute
a.c.	before meals
abd.	abdomen
alb.	albumin
act.	at the age of (actate)
alk.	alkaline
amt.	amount
ant.	anterior
b.	brother, bath
b.i.d.	twice daily
B.P.mx.	systolic blood pressure
B.P.mn.	diastolic blood pressure
br.	breathing
br. br.	bronchial breathing
B. quot.	bovine tuberculin quotient
ch.	child, children
ch. dis.	children's disease
c	with
cath. spec.	catheter specimen
c.c.	cubic centimeter
c.c.g.	chronic catgut
c.g.	catgut
ch.pox	chicken pox
chr.	chronic
cm.	centimeter
c.m.	costal margin
cmm.	cubic millimeter
cof.	coffee
Cta.	catamenia
d.	died
D. & C.	dilatation and curettage
D. D.	dry dressing
decr.	decreased
dim.	diminished
diph.	diphtheria
D. L.	danger list
epith.	epithelial
eq.	equal
esp.	especially
exam.	examination
exp.	expiration
ext.	external
f.	father
F. H.	family history
frem.	fremitus
G. & O.	gas & oxygen
G. & E.	gas & ether
gran.	granular
G. U.	genito-urinary
H.	hypodermically
Hab.	habits
hgb.	hemoglobin
h.h.	horse hair
h. quot.	human tuberculin quotient
hy.	hyaline
i.d.	daily
incr.	increased
insp.	inspiration
irreg.	irregular
l.	left
l. & d	light and distance
leuc.	leucocyte
lg.	large
l.n.	lymph nodes
l. t.	large trace
l.&w.	living and well

* Special laboratory and ward examinations not performed by the interns are signed by members of the staff who made them.

PERINEPHRITIC ABSCESES.*

By WILLIAM F. BRAASCH, M. D., Mayo Clinic,
Rochester, Minn.

While the subject of perinephritic abscess has been well reviewed in various articles, its exact pathology is still undetermined and the question as to whether a perinephritic abscess may originate in the perirenal tissues without any primary involvement remains unanswered. Perinephritic abscesses have been referred to as primary or secondary: those originating in the perinephritic tissues being termed primary, while all others, whether originating in the kidney or some other focus, have been regarded as secondary. The existence of a primary perinephritic infection has never been definitely established either at operation or at autopsy. Because of the large amount of evidence which demonstrates that infection of the perirenal tissues is secondary to infection in surrounding foci, it would be more logical to regard all perinephritic infection as secondary or metastatic. A division may be made between an abscess of renal origin and one arising in other tissues. The former group should be termed true perinephritic abscess; the latter, subdiaphragmatic or retroperitoneal.

A review of the cases operated on in the Mayo Clinic for abscess in the perinephritic tissues lends support to such classification: 101 patients had been operated on up to January 1, 1914, for abscess involving the perirenal area. In 34 of this number it was proved at operation that the abscess was secondary to lesions in the extra-urinary tissues and because of their situation were termed subdiaphragmatic or retroperitoneal abscesses. This group has been considered separately in a recent paper by Judd.¹ There remain for consideration 67 with lesions which may be regarded as perinephritic abscess. Of this number 46 were male and 21 female, or practically a ratio of two to one. In 36 patients the abscess was found on the right side and in 33 on the left, or practically equal. On reviewing the cases the following direct etiologic factors were found in the order of their frequency:

1. Pyonephrosis.
2. Renal tuberculosis.
3. Nephrolithiasis.
4. Cortical abscess.
5. Traumatic rupture.

Pyonephrosis. Inflammatory or mechanical destruction of the renal tissue may exist for years without seriously incapacitating the patient except by occasional attacks of pain. A perinephritic abscess will not infrequently suddenly complicate the situation and the patient is then forced to seek surgical relief. The abscess is usually drained at once and the patient may go about for years with a discharging sinus unless the kidney is removed. Pyonephrosis was found as the source of perinephritic abscess in 12, or 19 per cent., of the 67 cases. Of this number three were large infected hydro-nephroses of long standing. Immediate nephrectomy was done in 10 cases and drainage with subsequent

(m)	intramuscular
m.	mother
mag. sulf.	magnesium sulfate
meas.	measles
Mict. 1D-4	micturates four times during the day,
N-2	twice at night.
misc.	miscarriages
mod.	moderate
mos.	months
morph. sulf.	morphine sulfate
muc. memb.	mucous membranes
neg.	negative
neo-salv.	neo-salvarsan
oc.	occupation, occasional (in lab. re-
	ports).
O.P.D.	out-patient department
P ₂ .	pulmonic second sound
p.c.	after meals
P.E.	physical examination
P.H.	past history
P.I.	present illness
post.	posterior
p.r.n.	give as often as necessary
Pt.	patient
q.2.d.	every other day
q.3.d.	every third day
q.2.hr.	every two hours, etc.
r.	right
r.b.c.	red blood corpuscle
reg.	regular
Res.	residence
s.	sister
s	without
salv.	salvarsan
sc. fev.	scarlet fever
sl.	slight
s.o.s.	give if necessary, one dose only
sp.	space
spec.	specimen
sp.Gr.	specific gravity
s.p.t.	slightest possible trace
sq. c.	squamous cells
s.t.	slight trace
superf.	superficial
s.w.g.	silk-worm gut
T.	trace (in urine exam.)
tb.	tuberculosis or tuberculous
t.i.d.	thrice daily
tob.	tobacco
tinct.	tincture
typh.	typhoid fever
U1, U2, U3.	urine passed in 1st, 2nd, and 3d
	glasses.
(v)	intravenous
vert. col.	vertebral column
vol.	volume
Wass.	Wassermann
w.d. & n.	well developed and nourished
wh. cgh.	whooping cough
wt.	weight
xns.	crystals
yrs.	years.

References.

1. Howland. Transactions of Am. Hosp. Assn., 1914, p. 244.
2. Kilgore. Boston Med. & Surg. Journal, Nov. 18, 1915. See also next article in this series.
3. The expression of the results of cutaneous diagnostic reactions quantitatively in the form of "quotients" is described by Kilgore in a forthcoming number of the Archives of Internal Medicine.

* Read before the American Association of Genito-Urinary Surgeons, White Sulphur Springs, May 18-20, 1915, and the Southern California Medical Society, San Diego, July 8, 1915.

nephrectomy was done in two. The value of cystoscopic examination is rendered apparent in that the nature of the lesion and the functional destruction of the kidney was determined prior to operation. Drainage alone in these renal lesions is frequently attended with various complications and subsequent nephrectomy may be rendered difficult.

Renal Tuberculosis. Renal tuberculosis as the apparent etiologic factor of perinephritic abscess was present in 10, or 15 per cent., of the cases. Evidence of perirenal infection with renal tuberculosis is often found at operation and, while it is more often characterized by the sclerotic type, the formation of abscess not infrequently occurs. Severe pain occurring with renal tuberculosis may be the result of mechanical obstruction in the ureter and is usually transitory in character. With perinephritic complications the pain more often remains continuous over a period of weeks. It is not usually so acute as with other types of perirenal abscess, nor are the other symptoms so marked, the temperature and the leukocyte count being considerably lower. The prognosis of perinephritic abscess accompanying renal tuberculosis is less favorable than with other forms of perirenal infection. Of the 10 patients operated on, six died within a few months after operation. In seeking the cause of the development of perinephritic abscess with renal tuberculosis it may be inferred that it is the result of secondary mixed infection. In three cases, however, no bacterial growth was reported on culture.

Nephrolithiasis. With stone in the kidney or ureter the pain is usually intermittent in character. When the pain persists over a period of several days or weeks, it is the result either of continuous urinary obstruction or of perinephritic abscess. The perinephritic abscess frequently brings the patient suffering from nephrolithiasis to a surgeon when the occasional colic will not. Nephrolithiasis was the direct cause of perinephritic abscess in 11, or 16.4 per cent., of our cases. In each there was a cortical abscess, the evident result of the stone, which in turn was the evident cause of the perinephritic infection. The appearance of the perinephritic abscess was usually marked by a continuous severe pain persisting for several days or weeks. In a number of cases, however, there had been no recent clinical data suggestive of any complication. The abscesses in these cases were small and had burrowed into the perirenal fat. Nephrectomy was performed in six cases, while nephrolithotomy and drainage of the perinephritic abscess effected a cure in the other five cases. It is an interesting fact that the cases in which the perinephritic abscess was directly connected with a cortical abscess healed merely by draining the perinephritic abscess. This apparently explains why drainage of the perinephritic abscess may suffice to cure the condition even though a cortical abscess be the underlying cause.

Cortical Abscess. Direct evidence of acute localized renal infection, other than with pyonephrosis, lithiasis or tuberculosis, as an etiologic factor in perinephritic abscess was found in 12, or 18 per cent., of the cases. Pus in varying amounts was

found in the urine in all save two. Eight of the patients were subjected to cystoscopic examination, and the urine catheterized from the affected kidney showed microscopic evidence of infection. Of considerable interest are the two cases in which repeated analysis of the urine failed to show any marked pathologic element save a trace of albumin and a few hyaline casts that were regarded as of no practical significance. At operation perinephritic abscesses were found in direct communication with single small cortical abscesses. Recovery of the patients followed simple drainage. In four patients but a single cortical focus could be ascertained at operation; three of these recovered after drainage, the fourth suffered from a recurring abscess a month later. In two cases multiple cortical abscesses were found and nephrectomy was performed. The clinical symptoms in this group were characterized by their severity, evidence of marked infection being present in all. The leukocyte count was high and varied from 15,000 to 34,000.

In the discussion of this group of cases it is of interest that none of our series of perinephritic abscesses was found to have originated from a primary pyelitis or pyelonephritis. In the 211 cases of pyelonephritis and pyelitis which have come under our observation there is no record of previous perinephritic abscesses. Chronic pyelonephritis or pyelitis is therefore an infrequent cause of acute perinephritic infection.

Traumatic perinephritis. Perinephritic abscess not infrequently occurs as a complication of traumatic rupture of the kidney, usually from one to three weeks following the injury. It occasionally follows severe injury to the loin even when there is no clinical evidence of renal rupture. Albarran's well-known experiment demonstrated that perinephritic abscess may be caused by trauma directed to the perirenal area. It might be inferred, however, that perinephritic abscess following such injury may result from a rupture of the kidney too slight to give clinical evidence. It is well known that the kidney may be ruptured with a slight injury only. It is not impossible that the source of many perinephritic abscesses following injury to an affected loin is a superficial rupture of the kidney with secondary infection. Perinephritic abscess complicating rupture of the kidney was found in four, or six per cent., of our series. In three cases nephrectomy was necessary; in one case in which an abscess followed rupture of an upper pole, drainage alone was done, the patient making an uneventful recovery.

Perinephritic abscess without renal involvement. There remain 18 patients in whom no evidence of renal involvement was ascertained on clinical examinations. Two of this group had symptoms suggestive of possible spinal involvement and one later developed a typical psoas abscess. Another patient gave some evidence of possible pelvic source of infection, which leaves 14, or 21 per cent., of patients with no data as to the source of the infection. In many of this group the more recent methods of examination were not employed. Doubtless, with the aid of these methods, some evidence of renal involvement would have been found in a considerable

percentage of these cases. There will be, however, a small group of cases in which no evidence of renal infection is found on clinical examination and the etiology of which may not be ascertained at operation because of the exigencies of the cases. This type of perinephritic abscess is usually more acute and in all probability forms a comparatively large proportion of the perinephritic abscesses seen in the emergency hospitals of large cities. It would seem logical to infer that a small solitary cortical or subcapsular abscess is the cause of these unidentified perinephritic abscesses. The frequency with which hematogenous infection subsequent to some superficial lesion occurs in cases of both renal and perirenal infection would suggest their close relationship. It is this small proportion of perinephritic abscesses which has been regarded as primary because the evidence of renal involvement ascertained by means of the data available at operation was necessarily incomplete. It is in recent years only that the importance of several methods of clinical examination has been realized in the diagnosis of perinephritic abscess. With the aid of these methods, the renal origin of such abscesses will be found more frequently. The diagnosis of perinephritic abscess would be inexact without the data obtained through the following methods:

1. Repeated urinalysis.
2. Bacteriologic investigation of the urine catheterized from each kidney.
3. Estimation of the comparative renal function.
4. Radiologic examination, including that of the urinary tract, of the thorax, and pyelography.

Urinalysis. Israel² has called our attention to the value of repeated examinations of the urinary sediment in determining the renal origin of perinephritic abscess. He maintained that a few red blood cells and pus cells, together with albumin and occasional casts may be found after repeated examination in practically every case of perinephritic abscess. On the other hand, it must be remembered that a few red blood cells and pus cells may be found in the urine as the result of a coincidental lesion existing in the lower urinary tract, which fact lessens its diagnostic value. The absence of red and white blood cells in the urine would not necessarily exclude the possibility of renal origin. A practically negative urinalysis was reported in 10 of the 14 cases of unidentified perinephritic abscess. In a number of these, however, but one urinalysis was made. On the other hand, in the series of 34 subdiaphragmatic abscesses of definite extra-renal origin reported by Judd,¹ red blood cells or pus cells were found in the urine in three cases, the origin of these cells being in all probability in a coincidental chronic urethritis, trigonitis, or prostatitis which might be difficult to determine clinically.

Bacteriologic Examination. Baum³ reported seven cases of perinephritic abscess in all but one of which staphylococci were present in the urine. Although it has been demonstrated that bacteria, and particularly staphylococci, may pass through the kidney and be found in the urine without any renal lesion being present; the proportion of such cases is very small. Baum's report is one of ex-

ceptional interest and suggests a method which should be of considerable value in determining the renal origin of perinephritic abscess otherwise overlooked. The accuracy of this report is corroborated by numerous control tests and by one case in particular where the same organism was obtained from a cortical renal abscess as appeared in the perinephritic tissue. We have tried the method in six cases in four of which staphylococci were found in the urine; in two cases the urine was negative on culture and in one of these a retroperitoneal abscess extending from a perforated duodenal ulcer to the perirenal region was found at operation. In two cases a differential culture of the urine catheterized directly from the kidneys showed staphylococci from the affected side only.

Renal functional test. If a renal lesion is the cause of perinephritic abscess, a comparative diminution of functional activity from the affected kidney must follow. Although the cortical lesion may be slight, an appreciable difference should be noted between the functional output of the two kidneys. Using phenolsulphonephthalein, which lends itself admirably for this purpose, we have demonstrated a well-marked diminution of dye return from the affected side in five cases. (This number includes three cases reported in a previous article).⁴ In one of these the microscopic examination of the urine was practically negative save for a trace of albumin. In a case of retroperitoneal abscess involving the perirenal area and secondary to duodenal ulcer, no difference in the functional activity of the two kidneys was found. In one case of chronic perinephritic abscess of probable renal origin the difference was too slight to be of practical value.

Radiographic evidence. Roentgen examination of the urinary tract must necessarily be a preliminary step in every case of perinephritic abscess. It must be emphasized that a well-marked etiologic lithiasis may be present without causing preliminary subjective symptoms. Roentgen examination of the lower thorax made in order to observe any abnormal change in the position of the diaphragm may be of considerable practical value in differential diagnosis. This is particularly true on the left side where either a perinephritic or a subdiaphragmatic abscess may be the cause of considerable displacement.

Pyelogram. Renal infection past or present usually leaves some evidence of its presence in the outline of the pelvis or ureter which can be rendered visible by means of the pyelogram. Very recent infection may not, however, cause sufficient change in the pelvic outline to be of diagnostic value. The pyelogram was found to be of considerable value in two of our cases where the clinical data suggestive of renal involvement were indefinite.

Differential diagnosis. It may be difficult on clinical examination to differentiate perinephritic abscess from acute septic nephritis. In the early stages of abscess development the symptoms of the two conditions may be quite similar; both may be characterized by high temperature, leukocytosis, severe pain and tenderness referred to the affected renal area. However, with the increase in size

of the perinephritic abscess palpation will usually determine the condition. Although the existence of an acute perinephritic abscess may easily be determined, chronic perinephritic abscess may remain unrecognized until revealed at operation.

It may be difficult to differentiate between a subdiaphragmatic or retroperitoneal abscess and true perinephritic abscess. As a rule, symptoms of the original lesion and a more general invasion of the tissues will differentiate the two conditions. The data obtained through urinalysis, cystoscopic examination, bacteriologic examination, renal functional tests and the roentgenogram are often of considerable aid in differentiation.

Results. Of the 67 patients operated on at the Mayo Clinic, two (three per cent.) died as the result of the operation. Three other patients were reported dead at three, seven and twelve months, respectively, after operation.

The subsequent course was ascertained in 51 of the remaining patients. In 18 of this number the wound had healed in less than a month after operation. Of the remaining patients, 16 continued to drain for two months, six drained for three months, and three drained as long as six months after operation. The fistula persists to the present date in four patients all of whom drained longer than six months. In two of these patients an etiologic renal lesion was ascertained at the time of drainage and subsequently nephrectomy was advised. In the other two no evidence of renal lesion was discovered on clinical examination, however, the more recent clinical tests were not employed. One of these patients, drained one and one-half years ago, has returned with cystoscopic evidence of an etiologic renal lesion not previously discovered.

The question is frequently raised at operation whether immediate nephrectomy or drainage of the abscess alone is indicated. In the presence of a large fluctuating abscess and marked physical weakness drainage will suffice; if, however, evidence of considerable renal involvement has been ascertained, immediate nephrectomy as well as drainage is to be preferred when possible. The practical importance of previously ascertaining the underlying renal condition is self-evident.

References.

1. Judd, E. S. Subdiaphragmatic abscess. *Journal-Lancet*, 1915, xxxv, —.
2. Israel. Quoted by Baum, I. c.
3. Baum, I. Zur Frühdiagnose der paranephritischen Eiterung und des Nierenabszesses. *Zentralblatt für Chirurgie*, 1911, xxxviii, 956-7.
4. Brunsch, W. F., and Thomas, G. J. The practical value of chemical tests of renal function in surgical conditions of the urinary tract. *Jour. Amer. Med. Assoc.*, 1915, lxiv, 104-108.

THE NEED OF PSYCHOPATHIC HOSPITALS IN LARGE CITIES.

(With Illustrative Cases.)

By HAROLD W. WRIGHT, M. D., San Francisco.

The following cases have been selected from several hundred which the writer had the privilege of observing intimately in the psychopathic department of Bellevue Hospital, New York. They represent types of mental disorders which come to that hospital in large numbers every month and

which recover to the previous degree of normality in from one to six weeks.

They are classified as "Constitutional Inferiority," "Undifferentiated Depression," "Depressive Hallucinosi," "Acute Hallucinosi" (cause specified), "Allied to Manic-Depressive Psychosis," "Toxic Exhaustive Delirium," "Psycho-Neurosis" and "Hysteria," "Hallucinatory Paranoid Condition," etc.

They come from all walks in life; some are committed by magistrates after having come into conflict with the law; none of them require commitment to an asylum, and they more than justify the establishment of psychopathic departments in general hospitals, for they often require the aid of expert consultation with other departments of medicine. They illustrate particularly the value of a psychopathic hospital for acute cases as a factor in social economy, to say nothing of its value to the individual.

Case 1. Bromide Intoxication Following Simple Mental Depression. A nurse of forty-five with a history of chronic mental depression of several years' standing for which sodium bromide was used more or less continually while keeping at work. The patient was admitted in a state of delirium of the occupational type. She was loquacious, restless and distracted easily by sounds. Her spontaneous remarks and her replies to questions showed flight of ideas. She was disoriented and unable to give a coherent account of herself. She indulged in much fabrication in a reminiscent way, was very confused for recent events, easily made fearful and reacted to many illusions of sight and hearing. Her speech showed very marked paraphasia. Physically she was well nourished, had an acneiform eruption; the pupils were sluggish in reacting to light, and the tendon reflexes were exaggerated; there was marked defect in the sense of touch and pain, a fine tremor of the tongue and hands. Lumbar puncture gave negative results. After three days the patient was found to be partially oriented, her attention could be held for brief periods and the paraphasia was less noticeable. She continued to show fabrication of memory in trying to give an account of herself. Gradually the delirium subsided and in four weeks from the date of admission the patient was discharged entirely recovered. Had she not been given the advantage of prolonged observation in the psychopathic ward she would have been committed to an asylum, and because of the crowded conditions of such institutions her alienation from society with the stigma at present attached thereto would have been much more prolonged.

Case 2. Psychoneurosis With Hallucinatory Paranoid Complex. The patient was a divorced woman forty years of age. Her divorce occurred ten years ago and for several years had been in love with a married man who was unable to legally marry her. For three years past the patient had been very "nervous" and unable to apply herself to her usual work of a saleswoman. For a month or more she had thought that a woman in the apartment above her, a woman with whom she had had no relations whatever, friendly or otherwise, was talking to her and directing her thoughts, that she was under the control of this woman. On the day before admission the patient went to this woman and accused the latter of exerting an influence over her, and of reading her mind; the woman became alarmed and had a warrant served on the patient. When examined in the hospital she expressed regret over her conduct and said she had made a mistake. She was very uneasy in manner, at times tearful, but spoke coherently and answered questions intelligently although evasively when ques-

tioned about her hallucinations. Later she admitted that she was very much in love with the man before mentioned, that he was constantly in her thoughts, but that the legal and moral obstacles in the way of her attachment were insurmountable and that she felt that other people must know of her guilty love. After a week of observation the patient showed no further hallucinosis, was less agitated although still depressed; she was discharged against advice to her relatives, no system of delusions having been revealed. This was evidently a border line case and the patient may yet be committed; however, she can, through the co-operation of a visiting nurse, be kept under observation and in touch with the hospital for some time to come.

Case 3. Transient Depressive Hallucinosis. A young Russian girl gave birth to an illegitimate child eleven weeks before being admitted to the hospital. Eight weeks after childbirth she became very quiet and melancholy and showed suspicion of the medicine her private physician prescribed; also at that time she began to fancy that she heard people say that harm would come to her if she did not leave her lodging place. She was admitted in a state of depression with evidence of being in fear, but would say nothing when questioned. In two days she was bright and talkative, but forty-eight hours later she had a recurrence of fear with hallucinations in reaction to which she became mute, staring fixedly and being inaccessible to questions. This condition subsided within twenty-four hours and on recovery the patient had no recollection of the attack. There was no physical disorder.

This patient might easily have been rushed to an asylum, the fact that she was only a somewhat weak-minded ignorant girl who had not yet adjusted herself to a difficult situation being overlooked.

Case 4. Simple Depression Undifferentiated. A young Italian girl ten months post-partum with an illegitimate child and deserted by her lover tried to jump from the roof of her dwelling. She had previously been under treatment for tuberculosis. Concern over the means of support for herself and child, combined with ill-health and the feeling of disgrace, drove her to attempt suicide. She was very depressed and retarded in thought, but two weeks after admission she became more cheerful, her improvement being enhanced by the efforts of the Social Service Department in her behalf. She was transferred to the medical ward and later to a sanitarium for incipient tuberculosis; her child was also provided for without the patient being deprived the privilege of assuming the care of it later on. This case illustrates the great need of Social Service workers in connection with a psychopathic hospital.

Case 5. Depressive Hallucinosis With Complete Recovery. An Austrian housemaid of thirty-eight years had been very efficient until three months previous to admission, when she became hypersensitive about a matter of trivial dishonesty on her part. A few weeks later she thought she heard some one in church say that her mistress would have her arrested; a day or two later she ran out of the house in the middle of the night crying out that policemen were in her room. On admission she was depressed and agitated, complained of noises in her ears, but gave a coherent account of herself. No further hallucinations occurred in the hospital; she gradually became cheerful and acquired correct insight into the previous morbid condition and was ready for discharge after ten days. There was no alcoholism or other causative factor of a toxic nature in this case; the patient was an intelligent but uneducated and superstitious woman. She was taken again into the employ of her former mistress. Had she been once adjudged insane she would have had great difficulty in getting work again.

Case 6. Hysteria With Paranoic Type of Reac-

tion to Fear. A highly intelligent girl of sixteen years fell through a trap-door at her place of employment and slightly sprained her ankle. Her mother began suit for damages against the girl's employer and frequently talked about the suit in the presence of her daughter, abusing her employer for his reluctance in settling the claim. The patient then began to fear that her employer would do her some harm. A little later while at a theatre the patient was spoken to in a familiar way by a strange man whom she decided was an agent of her employer. She then took a position in a hospital as a ward maid in order, as she said, to be in a safe place. While working in this hospital her foot, which had recovered entirely from the sprain, suddenly assumed a rigid position of equinovarus, with loss of ability to bear weight upon it. A plaster cast was unfortunately applied, the condition not being properly diagnosed as hysterical contracture. The patient then began to fear and to believe that she was permanently crippled; for this reason she took oxalic acid with suicidal intention, and was sent to the psychopathic hospital. There she was at first depressed and uncommunicative; when spoken to she assumed a shrinking attitude of fear. Later the patient admitted that she was worrying over a love affair about which she was afraid to tell her mother. After a week of observation the patient became much more cheerful, seemed normally sociable, and the deformity of her foot disappeared a few days after the removal of the plaster cast and assurances of a speedy recovery. She was then discharged. A week later she ran away from home and was found in a state of excitement which soon subsided. Her mother was then urged to bring her to the psychopathic hospital again for further observation and psycho-analysis, but refused. This case was not one for commitment to an insane hospital, but did require prolonged observation and analysis with occupational treatment under the protection of the hospital or as an out-patient under the supervision of a social worker.

Case 7. Neurasthenic Depression Allied to Manic Depressive Insanity. A Russian Jewess of twenty-six years who had but recently emigrated to America after many difficulties and hardships because of being associated with revolutionists. She had formerly lived in a quiet Russian village and had planned to live in the country, but instead was obliged to accept work in the New York Ghetto, in a badly ventilated sweat-shop for small wages. She was also obliged to aid in the support of relatives. These conditions, combined with worry over finances and disappointment with her new surroundings, gradually culminated in a condition of despair accompanied by headaches, great fatigue and inability to make decisions; the fear of going insane also developed and was a prominent factor. She was brought to the psychopathic hospital because of an outbreak of extreme agitation and inability to look after herself. A few days in the hospital resulted in a marked improvement, and by the aid of the Social Service Department the patient was sent to a convalescent home outside of the city.

These cases are typical of many which are found in every large city and they are often very difficult to classify. There are other types of temporary mental disorder which require the services of those who are expert in both physical and mental diagnosis. I refer to the cases of atypical typhoid fever, pneumonia, valvular heart disease and toxic exhaustive conditions. When these diseases occur in persons of unstable mental constitution they result in mild delirium with stupor, or in a more active delirium with hallucinations, or simply in a retarded and confused condition of the mind with vague and changing delusions and occasional illu-

sions of sight and sound. Very often in these patients the physical disorder which is responsible for the psychic state is overlooked and masked, because of the prominence of the mental symptoms. Not infrequently the mental symptoms are the first to attract notice. Such patients have been sent to state hospitals for the insane before adequate time for proper diagnosis had elapsed, and their chances for recovery from the physical diseases much impaired thereby, to say nothing of the subsequent effect on the patients' minds on recovery to normal consciousness. The same remarks apply to many cases of puerperal psychosis, which are but transitory excitements with confusion of the apperceptive faculties accompanied by infection or toxemia. The writer has seen such patients recover inside of a month and then be detained many weeks among the acute and chronic insane because of the legal formalities required in custodial institutions before the patient could be discharged. So long as the lay mind regards the insane hospital and its inmates with that uncanny feeling and the idea that such patients are forever stigmatized, so long will serious mental shock and injustice be needlessly inflicted upon sick people.

Finally there is another class of unfortunates to be considered, persons who are not menaced by commitment to institutions for the insane, but who are themselves a menace to society because of not being so committed at the proper time. I refer to various types of offenders against the law of the land. Some are distinctly feeble-minded and commit offenses when made the tools of the more clever. Others are incipient cases of paranoia, dementia precox, acute mania, alcoholic psychosis or general paralysis; others are the so-called "constitutional inferiors" who lack balance in respect to their emotions and judgment. Oftentimes when these people offend against the law they are given temporary sentences to jail, workhouse or penitentiary, only to be set free upon society again without any estimate of the mental status having been made. They to a large extent compose the class of "recidivists." These cases illustrate again the need of hospitals for the prolonged observation of border-line mental disorders, where co-operation can be had with the general hospital wards, with organizations for social service, with the public schools, the home, and with courts of justice.

Should such a hospital be separate and distinct in its organization, and should it be under the administration of the municipality or under the state? This will depend somewhat upon local conditions. Such hospitals have already been established by the state in Boston and in Michigan and are resorted to by all classes of people. In cities where there exists a state university medical school, a state psychopathic hospital would seem to be an ideal arrangement, for it would then be brought into close touch with all citizens. Where local conditions or financial difficulties prevent such an affiliation, the psychopathic hospital should be a part of the largest general hospital of the city and should be affiliated with a medical school wherever such exists. At the same time it should be at sufficient distance from the other wards of the gen-

eral hospital to prevent contact of psychopathic patients with other patients. While it should have the atmosphere of a hospital for the sick, this atmosphere should be somewhat modified to the extent of providing more recreational and occupational facilities for those patients who do not require to be in bed than is usually found in general hospitals; this is of great importance in making the detention of patients agreeable and voluntary.

Those patients whose illnesses are more acute and troublesome should be in a pavilion separated from the ambulatory patients and there should be separate rooms for these. This pavilion should be divided into a department for noisy patients and a department for quiet patients; the walls of the rooms in the former department should be sound-proof; noisy, resistive or assaultive patients should have special nurses detailed to care for them only, and this department should be equipped with the best appliances for hydro-therapy, especially the continuous warm bath. Except in the rooms for noisy or resistive patients, there should be no bars on windows; they are unnecessary in such an institution, with the above exception, and add to rather than lessen the difficulty of detaining patients quietly. There is no reason why, under proper supervision and a sympathetic, intelligent staff, patients should not be as contented and remain as voluntarily as in other hospitals. While such a scheme implies considerable initial expense, and a larger staff of nurses than is usually found in such institutions, the expense is less in the long run by such a method because the results to the patients, and therefore to the community, are vastly better.

Should the hospital be part of the County Hospital? Not if the county hospital is identified with the care of the pauper only, because all social classes of patients will need the protection of the psychopathic hospital and it should be the first resort rather than the last for them. The family physician of any patient should be encouraged to keep in touch with his patient after admission to the psychopathic hospital, for in this way the neglected field of psychiatry could be actively cultivated by the general practitioner.

As to the commitment of patients found definitely and chronically insane: Where the law requires the production of the patient in court, and an open hearing court-room facilities of as informal a kind as possible should be provided within the institution itself, and every effort should be made to keep out of the proceedings all aspects of a punitive nature and to give them the atmosphere of medical consultations. This is now done in some institutions, the patient having all of his legal rights safeguarded and yet not subjected to the strain of making a defense against a technical charge of a misdemeanor, in public. Where the law does not require such formal hearings, the judge should visit the patients with the doctor in an informal manner. Finally the institution or department should have an out-patient clinic as an integral part of it. In this clinic many cases could be handled indefinitely before deciding upon hospital care, and those patients subsequently discharged from the psycho-

pathic hospital or from the state hospitals could be followed up by being referred to the out-patient department just as in other branches of clinical work.

NOTE—For the privilege of reporting the above cases the writer is indebted to Dr. M. S. Gregory, alienist at Bellevue Hospital, New York City.

ARE WE MAKING PROGRESS IN THE EARLY RECOGNITION OF TUBERCULOSIS? *

By GEORGE H. EVANS, M.D., San Francisco.

The interrogative character of the title of this paper was suggested by the recent visit to my office of a woman of apparently healthy appearance, who upbraided me for having made an erroneous diagnosis. She had, according to her statement, been to a number of physicians subsequent to my examination, all of whom had told her there was nothing the matter with her lungs. In one instance this had been "proven" by X-ray examination. This woman was probably sincere in her opinion that I had made a mistake; just as sincere as were undoubtedly those who drew their diagnostic conclusions solely from the physical examination.

Five months before she presented herself to me with the following history: She was 35 years of age, married and had had a constant cough with some fever for a month. She had lost practically no weight during this time but was 25 lbs. below her highest recorded weight. Her maternal grandmother and two of her own brothers had died of pulmonary tuberculosis. There had been a long and continuous house contact. She was of a decidedly nervous temperament, had naturally always feared tuberculosis. She had had a slight cough since childhood. Was subject to sore throat as a child, had whooping cough, and at 18 years of age had measles.

A careful correlation of the history and symptomatology here described certainly cannot justify one in definitely pronouncing this woman non-tuberculous, even though marked physical signs had been absent. She was apparently fairly healthy in appearance, but no more so than can be seen in a considerable proportion of the inmates of tuberculosis sanatoria, or among those attending tuberculosis clinics. The emaciated consumptive, the individual presenting the classical phthisical habitus is the advanced, hopeless consumptive, not the patient with early tuberculosis which the profession is charged with recognizing.

She presented a symmetrical chest with diminished excursion on the right side and definite spasm of the muscles over the apex in front and behind. There was dullness in front down to the second rib on the right, and a corresponding dullness behind. Above the clavicle there was harsh breathing with prolonged blowing expiration. Below there was roughened inspiration. In the right supra-scapular area, corresponding to the dullness was roughened inspiration and blowing expiration. In the inter-scapular area on both sides there was

a fine crepitant shower at the end of deep inspiration. She brought up a small amount of muco-purulent sputum, which showed no tubercle bacilli, even with the Ellermann and Erlandsen technic. There were no eosinophiles in the cellular content of her sputum, but 85 per cent. of them were lymphocytes. She reacted mildly and slowly to a cutaneous tuberculin test, the maximum appearing at the end of seventy-two hours; just such a reaction as one sees in the average healthy adult.

Correlating the history, symptomatology, and physical signs of this patient, what of the diagnosis? Shall we content ourselves with the verdict "not proven"? Must we wait for the presence of bacilli? Open tuberculosis is rarely early tuberculosis; and by early tuberculosis I mean that stage of the disease presenting reasonable hope of an arrestment of the process by proper treatment. We are not speaking of incipient tuberculosis, a term which has no justification for its existence in considering the disease in adults. This statement may seem revolutionary, and yet I venture to prophesy that when it is generally recognized that tuberculosis obtains foothold first in infancy or early childhood, and when the pathology and the methods by which it spreads are more thoroughly understood, the term "incipient" will not have the prominent place in medical nomenclature it now possesses. There will then be a general recognition of the fact that true incipency in lung tuberculosis at least is not clinically demonstrable.

In infancy or early childhood, bacilli, gaining entrance before specific resistance has been built up, may find lodgment in almost any of the tissues of the body, because at this time there is no selective affinity of tissue for the tubercle bacillus. Hence the incidence of tuberculosis in meninges, bones, joints, peritoneum, and other tissues. Bacilli finding their way to lymphatic glands, however, are more apt to be held in check, because of the anti-bacillary action of the lymph elements and may thus never give rise to symptoms. This phenomenon is familiar to us all in the chronic tuberculosis infections of the superficial neck glands in children. Yet tuberculous infection has inevitably taken place and cell sensitization occurs, an important part of the partial immunity produced and enjoyed by mankind generally. This cell sensitization was abundantly proven by Koch's inoculation experiment, and explains the tuberculin skin reaction obtained generally in older children and in adults.

At what time, and in what manner does this tuberculous infection become clinically demonstrable? While in early life bacilli escaping from lymph glands may be implanted in any portion of the body, in later life lung tissue presents selective affinity. Whether metastases occur through the blood or lymph stream or both does not here concern us. The early metastases may escape observation because the bacilli escaping into the blood stream are few, their virulence is inhibited by the anti-bacterial elements already formed in the blood, and the specific resistance set up by

* Read before the San Francisco County Medical Society, October 12, 1915.

the sensitized cells. Thus many such infections heal without clinical recognition. This is well seen in the scars uniformly found post-mortem.

When, however, because of temporarily lowered resistance from any cause, or the introduction of overwhelming numbers of bacilli from without (as happens in prolonged continuous house contact), bacilli which had been shut up in these primary metastases begin to multiply, secondary metastases and new foci occur, toxins are given off, producing changes in the surrounding tissue; a collateral inflammation occurs, with resulting necrosis, and clinical symptoms are produced. Thus it will be seen that clinically demonstrable tuberculosis has for its pathology advanced changes in the tissues. Even here physical signs may be absent or so slight that they will be overlooked.

The importance of physical examination has been over-estimated. There is not much hope of progress in the early recognition of tuberculosis until the relatively greater importance of symptoms is generally appreciated. The emphasis which for years has been placed on the charge to the profession generally that they should more carefully examine their patients and thus recognize tuberculosis early is largely responsible for the fact that undue significance has been placed on the importance of physical signs, to the neglect of the more important symptomatology.

I have no hesitation in presenting as an axiom, that given an early history with prolonged contact and definite symptoms of both constitutional and focal character, that a provisional diagnosis of tuberculosis is justifiable even in the absence of physical signs. I do not mean by this that such patient should be forthwith bundled off to a tuberculosis sanatorium, but he should be frankly told of the probabilities and his method of living so modified as to conform to a regime of strict hygienic living under careful medical supervision.

But to return to this patient, for she affords a beautiful illustration of the burden of this paper. She had had a slight cough since childhood and had long lived in a constant tuberculosis environment, for two of her brothers died of tuberculosis. Leaving out of consideration her symptoms at the time of examination, and the physical signs present, can this significant history be ignored or lightly passed over?

Frequent and protracted colds, a cough however slight existing since childhood are in the majority of instances due to tubercle, and, unless some other cause for them can be found in the upper respiratory passages, diagnosis of tuberculosis must be seriously considered. Painstaking effort is usually necessary in eliciting this history. The frequency with which tuberculous subjects deny entirely, or minimize the significance of cough, affords a very interesting feature in the psychological study of these patients. Much evasion is practiced also in giving facts regarding house contact. Chronic bronchitis and asthma frequently cover up a focus of infection in a household. When the defenseless infant will be protected from the loving grandparent, the victim of bronchitis or asthma, whose sole remaining function in life seems to be fond-

ling the innocent object of his solicitude, much will have been accomplished toward the elimination of a frequent source of contagion. The frequency with which the aged with chronic bronchitides have been found to be bacillus carriers justifies this statement.

According to the patient, an X-ray examination "proved" she was not tuberculous. There are no short cuts to diagnosis in tuberculosis. I wish to here record my recognition of the X-ray as an aid to diagnosis in some cases, as a means of confirmation in many others. I was very much impressed by what Dr. Billings had to say at a clinic during his recent visit here regarding the X-ray in the diagnosis of lesions of the gastrointestinal tract, in which he emphasized the danger which has arisen with the improved Roentgenologic technic, of drawing false conclusions from relying on such examinations, ignoring the physical and clinical laboratory findings. As a result, large numbers of surgeons, totally disregarding the information revealed by stomach analyses, history and symptomatology, are operating upon patients on the unsupported diagnosis made from X-ray examination. As with the development of the modern laboratory, the profession generally became too prone to accept the laboratory report, and neglect the clinical examination, so to-day the tendency is to sweep aside laboratory and clinical findings and to implicitly accept the interpretation of the radiographer. The diagnostic acumen of the clinician has suffered in consequence. This tendency has been most marked in the diagnosis of pulmonary tuberculosis. It has become popular with both physicians and the public. It is impressive and spectacular and presents something tangible to the eye, in the place of information arrived at largely from deduction. It avoids the time-consuming examination or series of examinations, altogether impracticable in the day's work of the busy practitioner who sees and prescribes for large numbers of patients daily. But what of the patient's interests? While Roentgenograms are of great diagnostic value in revealing abnormal shadows about the root of the lung, that is when normal shadows are properly interpreted, they usually are of doubtful or negative value as aids in the detection of early pulmonary lesions in the parenchyma. When dense tuberculous infiltrations have occurred, of course plates will reveal them, but at this time we have passed the stage when tuberculosis should be recognized. I am making a plea for the recognition of those cases in which the pathology presents small and discrete metastatic foci. On the other hand, too often the tree-like shadows seen upon a normal chest plate have been mistaken for tuberculous infiltration. These shadows are due to the bronchi, blood-vessels and connective tissue. Peri-bronchial thickening is likewise frequently faultily interpreted. Stereoroentgenograms unquestionably present evidence of value, but the expense and complicated technic prohibit their general use in diagnosis.

Tuberculin reactions indicate tuberculous infection, not necessarily tuberculous activity. While

prompt tuberculin reactions with weak dilutions of tuberculin are valuable diagnostic aids, many mistakes are being made by implicit reliance on these tests to the exclusion of other diagnostic measures.

A clergyman, 30 years old, came to me a few days ago for examination, stating that a diagnosis of active pulmonary tuberculosis had been made upon him because of a positive Moro skin test. He was free from symptoms, except a slight occasional cough. Five years ago he had a slightly active tuberculous lesion, because of which I stopped his work. In the interval he has remained free from symptoms and has gained forty pounds in weight, and aside from the interval when he was under my care at first, has followed his work as a teacher. He has at present no evidence of activity in the physical signs present, nor any convincing symptomatology, but, solely because of his positive skin test (and the most unreliable of all the skin tests) and, in the face of a large gain in weight, for he is thirty pounds above his highest average, he was to be condemned to a regimen of forced feeding with milk and eggs, and tuberculin injections.

Some time ago a physician came to me in great mental perturbation because of a positive tuberculin reaction. A large abrasion had been scarified upon his arm, sufficient for the absorption of an amount of tuberculin which in the presence of tuberculous activity would have undoubtedly resulted disastrously.

This is an extreme case and yet it serves to illustrate a tendency which is constantly seen, to find a short road to diagnosis. Tuberculin tests in order to be of diagnostic value must be carefully applied and thoughtfully interpreted, observation extending over a period of days. So used, they have an important place, both in diagnosis and prognosis.

But what of the patient who supplies the motive for this paper? Has her tuberculous activity subsided? Possibly so. Tuberculous activity frequently subsides without treatment, sometimes in spite of neglect of any kind of treatment. Or will she appear again with her disease too far advanced for treatment to be of avail?

In this connection the two following histories are interesting: A man 40 years of age was always subject to colds. In 1905 he had a left pleural effusion. The fluid was drained and he made an apparent recovery. Three years later he was referred to me with active, extensive tuberculosis in both lungs and sputum filled with bacilli. It was ten months before the disease was sufficiently arrested for him to return to his work. He was then bacillus-free. One year later he returned with an outbreak of his disease, bacilli again being present. He was again eight months under treatment before all sputum had disappeared. Since then he has been free of any evidence of activity, a period of more than four years.

A few months ago a man of 35 years was referred to me. Two years before he had had pleurisy with effusion from which he made the

usual recovery, and in the interval was apparently well without cough and without any medical supervision. Nine days before I saw him he began to cough and had fever. Examination showed active involvement of both upper lobes, the right showing evidence of old disease. His sputum contained bacilli. He is now undergoing sanatorium treatment.

The most frequent mistake is made by assuming a cause for suggestive symptoms without making any attempt at careful examination. The symptoms produced by the toxemia of tuberculosis are those common to other toxic causes. Of course there must be symptoms of a focal character to make the picture suggestive. Even in the presence of these, a run-down condition, whatever this may be, anemia, dyspepsia, are too often applied to explain the symptoms at a time when the disease has advanced sufficiently to present definite signs on examination. I have repeatedly seen this error committed in young adults who have overworked at their studies.

A girl of 18 was referred to me recently because she had been coughing for two months. During the last week the cough had been worse and for the last few days there had been sputum and chest pains. She had lost ten pounds in weight since the cough began. She had been working pretty hard previous to her graduation in June and the family physician thought the condition was due to her overwork. She lived in Los Angeles and was up here visiting the Exposition with her parents for a week before entering a local boarding academy for girls. She presented herself to me with a temperature of over 100 and slight but definite physical signs of active disease at both roots and in the right upper lobe. Her sputum contained no tubercle bacilli but had a high lymphocytic content. X-ray examination showed diminished excursion of the right side of the diaphragm on the screen; on the plate, slight haziness at the right top with increased density of the root shadows.

The diagnosis was a shock; sanatorium treatment was advised. Was the evidence sufficient to justify the diagnosis and treatment suggested? Ask the parents whose daughters would have come into intimate daily contact with this girl at the seminary she was entering, when later she would have advanced to the communicable stage.

Is there any disease in the category of medicine where success in treatment demands more accurate recognition in its early stages? And yet to-day tuberculosis is as a rule recognized and admitted only when the destructive process has advanced so far that bacilli are present in the sputum. That surgeon would indeed be reprehensible who waited for incontestable proof of the presence of an acute inflammatory abdominal process demanding surgical treatment, before operating on his patient. We shoulder our responsibility lightly when we await the advent of signs of advanced disease and overlook the ominous symptomatology which invariably precedes these signs. If we are to adopt a policy of "watchful waiting," let it be watchful—watching and correlating the evi-

dence and thus giving to the patient the benefit of a recognition that does not come too late.

Discussion.

Dr. Robert Peers: I am sure I have been very much pleased indeed to listen to Dr. Evans' paper to-night. I want, in the first place, to endorse what he has been telling us regarding the early diagnosis of tuberculosis, and I would like to state that I believe a better word than "early" is the word "earlier." As Dr. Evans very clearly stated, we do not make an early diagnosis in cases of tuberculosis in adults. I think he is right in telling us that the word incipient is also a poor one in speaking of tuberculosis in adults, because cases which have been called incipient are merely patients showing early symptoms of the secondary or tertiary stage of a disease which probably began in childhood.

I wish to endorse what the doctor has said because a great many advanced cases have come to our institution who present histories very similar to that the doctor has outlined to-night. They speak of having had (two, three, five or ten years before) periods where they were run down; with a slight cough and a few physical signs, which the doctor said was only a case of bronchitis and advised a trip to the country or a few weeks' rest, which frequently enabled them to catch up; they would go on later only to break down again. Had a diagnosis been made early and proper regimen started, there would probably have been no secondary breakdown.

I think, as Dr. Evans does, that it is not necessary to send these patients to sanatoria if the cases are diagnosed early. We know that there are many tuberculosis sanatoria in this country; we also know that there is probably not one bed for ten advanced tuberculosis cases existing in this country; but if we were willing to make the diagnosis upon the history and symptomatology the doctor has outlined, the sanatoria would have more than enough beds to handle the cases.

In regard to what the doctor said of his patient being well nourished, although somewhat below maximum weight, I have often made the statement that there are more stout, well nourished tuberculous individuals than thin ones; because a person is stout is no reason for us not to suspect tuberculosis.

I wish to endorse what the doctor has said when he insists upon us laying a great deal of stress upon the history and symptomatology. Some one asked me a year or so ago what I considered the most important single thing in making a diagnosis of tuberculosis. I said I considered a properly taken history the most important. If we go very carefully into the family history and into the surroundings to find out whether there had been (as in the case the doctor spoke of) prolonged close contact; go into the personal history of the patient to see whether there has not been a case of atypical pneumonia, pneumonia lasting six or eight weeks with the patient taking three or four months to recover; a case of atypical typhoid, with night sweats; atypical malarias without definite chills and fever and which are not cured by quinine; find out the maximum and minimum weight; then take up the symptomatology as presented by the patient, and we can arrive at a fairly accurate diagnosis before making the physical examination.

Nevertheless, I believe in making a very thorough physical examination and taking sufficient time for the examination. One reason the earlier cases of tuberculosis are overlooked is because not sufficient time is taken for examination and not sufficient stress has been given to history taking and symptomatology.

The doctor spoke of what I call "tuberculosis carriers"—these grandparents who are solicitous about their grandchildren. I have in mind a case

that came to my notice two years ago. The grandfather had been sent to California from the East because of chronic bronchitis. He had several hemorrhages and to this day has a chronic cough. He had two daughters. One died of tuberculosis. The other was a thin, rather delicate woman subject to throat trouble. This woman married and had four children. Two of them came to me as patients, suffering from tuberculosis, and we found tubercle bacilli in the sputum. The eldest daughter was a delicate girl who tired easily and had slight afternoon rise of temperature, and gave a reaction to tuberculin. The fourth child was a boy about two, and for some time before coming to Colfax this child had a cough and was run down. He reacted strikingly to tuberculin. I think we are justified in thinking that the grandfather had tuberculosis; he probably infected his two daughters; one, not having a high resistance, died; the other lived, but had throat trouble, and she in turn infected her four children.

In concluding, I would emphasize:

First. We should bear in mind that tuberculosis is the most common of all diseases, and when we find persons coming to our offices with signs of some ailment causing a run down condition and slight cough, we should remember that tuberculosis is the most common of all diseases. Practically all adults have been infected, and at least one in seven of our clients die of the disease.

Second. The most important single factor in the diagnosis is a properly taken history.

Third. We should remember that tuberculosis is the most common cause of cough.

Fourth. Physical signs found in the chest on one side and not on the other, when occurring in patients not acutely ill, are most commonly found in patients with tuberculosis.

A suggestive history and symptoms such as have been outlined, when associated with asymmetrical physical signs in the chest should outweigh a negative sputum examination in making a diagnosis.

I had a case two years ago with a suggestive history, and slight chronic cough in a woman below normal weight, who had very few physical signs in the chest. Some sputum, but no t.b. present. I made a diagnosis of tuberculosis and advised her to have treatment for several months. However, because I could not find t.b. in the sputum, and could not state that there were t.b. there, she decided not to accept the diagnosis and made the rounds of several physicians who assured her that she did not have tuberculosis but chronic bronchitis. Four months ago she returned to Colfax in a hopeless condition. We have found t.b. in her sputum only twice in several examinations.

Lastly, physicians should bear in mind that there are diseases other than tuberculosis which will give very similar histories and which will cause very similar symptoms and in making a diagnosis in pulmonary cases these other diseases must not be forgotten. However, such cases are relatively very infrequent. It is much safer to treat such a patient as tuberculous until the diagnosis is absolutely settled than to do otherwise and refuse to make a diagnosis on the basis of history and symptomatology.

Dr. W. C. Voorsanger: I can merely endorse everything that has been said. Perhaps we who are particularly interested in this subject are somewhat to blame if there is confusion, and if the diagnosis of beginning, incipient, or early tuberculosis is a difficult matter. I read years ago—I believe it was attributed to Traube—that whenever he could not make a diagnosis he said it was a difficult matter. I do not believe the diagnosis of a beginning tuberculosis is more difficult than anything else. We are all very much chagrined when we see some one dying suddenly from a heart complication when we felt sure that there was no trouble with the heart.

We have been very much chagrined to have

observed a gastric case for a long time and have the patient have sudden hemorrhage, and come to the conclusion that this patient had a gastric or duodenal ulcer. So it becomes a matter of observation with all cases, particularly with tuberculosis.

We have so confused the classification of tuberculosis that it is hardly possible for a physician to-day to know what method to use in the diagnosis. I remember that we used the expression pre-incipient as designating a case which was not quite tubercular. Then we classified cases as incipient, moderately advanced, and advanced, and confused things very much. I believe we forget exactly what tuberculosis is, and that cases which are found ultimately the worst are the most difficult to recognize, i. e. those which have disseminated patches through the lungs. I have at present under treatment a man who shows very few physical signs but nevertheless loss of weight, cough, and distinctly bronchial breathing at the base of one lung. There are no bacilli in the sputum and nothing upon which you can absolutely base a diagnosis, and yet one can feel certain that this man has tuberculosis. On the other hand I have a lady who should be put away because she is a carrier; she has not a physical sign of tuberculosis and yet the sputum teems with bacilli.

I believe we confused ourselves when we first brought out views on percussion, then on auscultation. We said that differences in percussion, differences in tenseness of the muscles meant something, and then changed our opinions in favor of roughened inspiration or expiration.

If you wish to make an early diagnosis of tuberculosis you must observe your patient as carefully as you would in any other condition. You should put this patient perhaps to bed and use every known aid to diagnosis; examine the sputum, make laboratory tests, use your X-ray. Of all the physical signs I prefer careful percussion. I believe if we carefully measure the apices according to Krönig's method, estimating gradations of dullness, and take all our facts together, we can come to a diagnosis.

Then we have the important differentiation of active or inactive tuberculosis. The active is much easier to diagnose. In conclusion I want to entirely endorse the speaker's views upon careful history taking and symptomatology as very important aids to the diagnosis of early tuberculosis.

Dr. C. W. Lippman: I simply wish to confirm Dr. Evans' remarks about the relative value of X-ray plates in early tuberculosis. So far as my experience goes in tuberculosis that you can hear but cannot percuss, the X-ray plates are of little value. Any infiltration which you can percuss, can be demonstrated on the X-ray plate. Very often, however, people read tuberculosis into plates because they have heard rales or changed breathing with the aid of the stethoscope.

In the tuberculosis of children under two years of age, where it is ordinarily at the root of the lung, plates are of enormous help. I have seen cases with fever and no physical signs showing infiltration on the plates. The cases improve and following closely upon the clinical improvement is a disappearance of the shadows at the hilus.

As to X-ray in stomach work, Dr. Evans mentioned Billings who rates the value of radiology very low. I believe his statement to be incorrect in gastroenterological work, as it is recognized everywhere that next to history radiology is the most important aid in abdominal diagnosis.

Dr. Evans, closing discussion: I am very glad that Dr. Peers, with his rich experience, confirmed what I had to say. I was pleased that Dr. Lippman agreed with me regarding the place of the X-ray plate in diagnosis. It is very true that we frequently read into the plates what we have elicited from the physical examination. I think the only way is to examine the X-ray plate inde-

pendently of the physical findings. This is the plan I follow: In all cases where plates are made, I request of Dr. Ruggles, who does my X-ray work, a definite written report of his interpretation of the plate. After this we frequently make careful comparison of the plate and physical findings.

In reference to what Dr. Lippman said as to the value of the plate in root lesions I fully agree. In fact I mentioned their value in my paper. We are apt to get away from the path of clinical investigation and rely too implicitly on these short cuts to diagnosis, valuable though they are, as said. I wish to emphasize more care and thoroughness in correlating and giving proper significance to history and symptomatology.

REVIEW OF RECENT PROGRESS IN X-RAY.

By W. W. BOARDMAN, M. D., San Francisco.

In reviewing the recent progress in Röntgenography and Röntgenotherapy one is impressed with the enthusiasm and energy of those engaged in this work and with their ever widening field of usefulness.

This progress in large measure is due to the perfection of old and the introduction of new equipment. The most valuable recent addition being the Coolidge tube, a so-called hot cathode tube. Without entering into the details of its construction, suffice it to say that one is able to use this tube continuously for long periods with heavy currents and with absolute control over the resistance, facts which make it of inestimable value in deep therapeutic work. The tube is recommended for radiographic and fluoroscopic work also, but as yet has not been very generally adopted for such purposes.

The successful use of the X-ray for the recognition of gall stones is a definite advance. Excellent reports have appeared by Case, Pfhaler, Cole, George and others and there is no question but that with proper technic gallstones may be recognized in at least 50% of the cases. Much higher percentages are claimed by some but this is a conservative figure. It is probably advisable to include this examination in the routine study of the gastro-intestinal tract, although a negative radiographic diagnosis is of no significance.

In the study of gastro-duodenal ulcer the work of Cole and George is of great interest and of undoubted value. They depend almost entirely upon the plate examination, but take a large number of plates in each case. They disregard the functional disturbances such as hypermotility, spasm, etc., as described by Carmen and others and rely almost entirely upon the evidence of some definite anatomical defect in the stomach or duodenum. They claim for this so-called positive method practically 100% correct diagnoses. It is true that when a positive diagnosis is given on such evidence, the surgeon will find the lesion, but it seems probable that superficial ulcers may exist at the time of examination and fail to give any evidence of anatomical defect in the outline of stomach or duodenum. In these cases it would seem that a due consideration of the various functional disturbances might be of real value. The only objection to the Cole technic, however, is the excessive cost which precludes its use in the average clinic.

At the opposite extreme there are many observers who disregard the plate examination entirely and place their sole reliance on the fluoroscopic examination, and in the recognition of various functional disturbances. In this regard, the report by Lippman of the diagnostic value of reverse peristalsis in the duodenum as indicative of duodenal ulcer may be cited. The middle ground would seem to be the safest, that is a screen examination combined with as many plates as occasion permits, a careful study of the plates for evidence of organic defect, with due consideration of the evidence of functional disturbances and finally the careful correlation of the Röntgen evidence with the clinical evidence before reaching the final diagnosis.

More or less attention has been directed to the ileocecal region since Lane's work on intestinal stasis, but Case's recent work on the ileocecal valve is a definite contribution. The matter is not as yet settled, and it still remains to be proven that the presence of an insufficient ileocecal valve as demonstrated by the bismuth enema calls for operative repair of the valve.

Considerable interest has been displayed in the X-ray study of the appendix, the general consensus of opinion being that an appendix which fills but fails to empty as readily as the cecum must come under suspicion. An appendix fixed by adhesions may oftentimes be demonstrated by fluoroscopic examination.

From Boston comes the plea for earlier recognition of carcinoma of the stomach and the belief is stated that the X-ray allows of earlier recognition than any of our other methods. An annular widening of the pylorus is described by George as the earliest manifestation of carcinoma at the pylorus, but no satisfactory explanation is given for the occurrence of this annular widening. However, such an observation coming from George demands our consideration.

In the study of diseases of the urinary tract a note of warning has been sounded in the use of the silver salts for pyelography. They must be used with due care, which means that they must not be injected with pressure, but should be allowed to flow in slowly by gravity.

Jackson has made two reports on an interesting observation on the sella turcica in epilepsy. He has found that in a large percentage of the cases of idiopathic epilepsy the sella is small and the clinoid processes practically roof it in. This is an observation worthy of further study.

From abroad the greatest interest has recently centered in various means of rapidly locating foreign bodies.

Belfield has advocated the injection of silver salts into the seminal vesicles through the vas deferens, as an aid in the diagnosis of vesicle disease. The method needs further study.

As previously stated the introduction of the Cooledge tube has given a great stimulus to Röntgenotherapy, especially deep therapy. From the continental clinics there have been an ever increasing number of reports on the treatment of myomata, menorrhagia and metrorrhagia, and there

is no doubt that these conditions can be markedly benefited by proper Röntgenotherapy.

In Hodgkin's disease, lymphosarcoma and leukemia the X-ray produces marked clinical improvement. In malignant diseases there is a growing hope that the more modern methods of treatment may still yield results. At the present time all post-operative cases should be thoroughly and immediately treated. Thorough treatment means the division of the skin area into small squares and the administration of full doses of hard filtered rays over each area, not merely the exposure of the skin area for a few moments once or twice a week.

Tuberculosis of the glands yields readily to Röntgenotherapy and all cases should have the benefit of this form of treatment, unless the glands have broken down, in which case they should be drained and the region subsequently rayed. The rapidity with which some of the old post-operative sinuses heal is most gratifying. Bronchial glands yield quite readily also to the Röntgenotherapy.

There have been some interesting papers on the treatment of pulmonary tuberculosis. One of the earliest was by Gibbons of Denver, but this attracted little attention. Kuepferle reports some very convincing experimental work in animals and a series of 42 clinical cases with apparent cures in all but the advanced cases. Frankel also reports good results in a series of 80 cases. The method is being used to some extent in this country, but as yet no convincing reports have appeared.

In tuberculosis of bones and joints there are many satisfactory reports and it is probable that this method will soon have more general acceptance.

Several interesting articles have appeared on the treatment of thyroid enlargements, very satisfactory results following the treatment of the enlargements of adolescence although the gland frequently does not return to normal size. In exophthalmic goitre the reports seem to indicate cure in about fifty per cent. of the cases, with clinical improvement in about twenty-five per cent. more. The treatment should be directed over the region of the thymus as well as over the thyroid itself. In cystic goitre the results are less satisfactory, some decrease in the size of the gland being obtained, but rarely a return to the normal size.

MASTOID OPERATION DEPENDENT UPON PATHOLOGY.*

By CULLEN F. WELTY, M. D., San Francisco.

For some thirty years or more, the duration of a discharging ear put it in one group or another in regard to operative procedure. In this paper, I wish to deal with children under 15 years of age with discharging ears that have lasted one year, or more. This one year period was established long ago by surgeons more eminent than myself.

I wish to show by a series of operated cases that a radical mastoid should not be done as a routine procedure, as many of the cases will recover by the simple operation. In other words, the pathologic findings before and during opera-

* Read before the Pacific Coast Oto-Ophthalmological Society, San Francisco, June 15-18, 1915.

tion, should determine the kind of operation to be done.

The only contra-indications to the acute mastoid operation in chronic suppurative otitis media in children under 15 years of age, may be divided into two groups, those that may be present prior to operation and those that are found during the operative procedure. All cases of proven tuberculosis of the ear, should be excluded.

Group 1 (a) Acute exacerbation of the chronic suppurative associated with cerebral symptoms;

(b) Vertigo, nausea and vomiting, nystagmus or facial paralysis;

(c) By ear examination, acute or chronic labyrinthitis, or destruction of the labyrinth, fistulae of the labyrinth, or a case that will react to the fistula symptom, also partial, or complete destruction of the tympanic wall, true cholesteatoma.

Group 2 (a) Cholesteatoma;

(b) Fistulae of the semi-circular canals;

(c) Such extensive bone disease of the walls of the attic and antrum, that it cannot be removed with certainty.

This paper is based upon twelve cases. They were all double mastoids. Two of the cases were acute exacerbations of chronic suppurative. They all recovered from the discharge but one.

This particular case was well for some months, returning with a fistula through the bony attic wall. The reason this was not seen prior to operation, was because it was one of the cases of acute exacerbation with the meatus almost closed. I do not understand why it was not seen in the after treatment. My only explanation, is that it was mistaken for the perforation of the drum membrane and was finally healed completely.

As I said before, this case returned with a discharge and granulations coming from this perforation, low down on the tympanic wall. There must have been a slow, carious process going on within the tympanic cavity. However, this never gave any distress. The case will have to be re-operated.

Schwartz was the first to do a mastoid operation that looks something like the operation we do at present, for acute mastoiditis. This was done for acute and chronic cases. Some of the chronic cases did not recover and at this time Stacke described an operation that was to cure the chronic cases particularly. This held for some time, or rather, divided the honors with the Schwartz operation.

Neither one of them was satisfactory until Zaufal combined the two operations, calling it the radical mastoid operation, used only in chronic suppurative otitis media, while the Schwartz method became the accepted procedure for the acute process. The Stacke operation is only done at the present time when the sinus is so far forward that no other operation is possible.

In 1904, Jansen was doing an operation in chronic suppurative cases that never became popular enough to have a name. In this procedure, he took most of the posterior wall down, but did not disturb the annulus tympanicus. He also took away as much of the attic wall as was possible in a given case, leaving the ossicles in place, so that

they could be seen during, or at the completion of the operation. He did not disturb the posterior membranous meatus. The case from this on, was treated as we treat our acute mastoid operations of to-day. This procedure was not entirely satisfactory and it was abandoned.

Some time after this Heath of London introduced a universal operation for acute and chronic cases. This consisted in cutting down the posterior wall to the annulus tympanicus, destroying all the mastoid cells, cutting the posterior membranous canal and pushing it into this newly made cavity. The outer wound was closed; further treatment through this posterior hole in meatal wall.

This procedure is not entirely satisfactory in the hands of all men. In fact, no one operative procedure will be good in all cases.

With the array of facts as I have presented them, you can see why I have gone to the Schwartz operation in only selected cases.

I maintain that by going down to hard bone over your entire cavity, in cases such as I have selected, your hearing will be as good, or more than likely better than it was before the operation. Also the after-care of the ear will be eliminated and that will be a great factor. Furthermore, if the case does not entirely recover, you always have the radical mastoid to complete the procedure.

THE ORIGIN AND ENDING OF THE DR. JORDAN MUSEUM OF ANATOMY, ETC., ETC.

By DR. J. F. GIBBON, San Francisco.

Fifty years ago I visited London the first time. Before I left San Francisco a friend gave me a list of sights to be seen there. In the list was the Dr. Kahn Museum of Anatomy, Titchburn street top of the Hay Market. I went to it and paid one shilling (25 cts.) admission. A book was handed me entitled "The Philosophy of Marriage and Catalogue of Dr. Kahn's Museum."

After seeing it through I concluded it was gotten up to make practice for Dr. Kahn by exhibiting models of venereal diseases and effects of self abuse. All of the bad cases were cured by Dr. Kahn, whose office was attached to the museum. I brought Dr. Kahn's book with me and read it crossing the Atlantic on the way home.

Some years after I read in Dr. Acton's work on the reproductive organs, mention of a railway official who paid Dr. Kahn £500 (\$2,500). Soon after he found out he had been victimized by Kahn, brought suit against him for the recovery of his money and the court declared Kahn a fraud. The judgment was for full amount with costs, which Kahn had to pay. At the next session of Parliament an act suppressing the Kahn Museum was passed that drove it out of England.

Some time later, the Jordan Museum was opened on the east side of Montgomery street, between California and Pine streets, on the ground floor. It was there some time and afterwards moved to the south side of Market street, near

Fourth street, upstairs, where it remained for many years. Dr. Jordan's office was a block beyond on the south side of Geary street, opposite Union Square. There was a row of two and a half story frame buildings with bay windows. He occupied one of them for his office.

When a man visited the Museum, paying 25 cents admission, he was handed this book, "The Philosophy of Marriage and Catalogue of Museum." After a man had gone through the museum and seen the horrible models, real or imaginary (more imaginary than real) put there for effect, it impressed him so he must consult Dr. Jordan about his case, if not, it might end badly. So he would go to the Doctor and pay \$5 for a thorough examination, including the urine. After the Doctor examines the urine he tells the victim he finds much semen and particles of his brains in it and if not attended to soon, his case will turn out like the bad case he saw in the museum, that he had cured. It was an easy matter to land the victim after the bad scare he got in the museum.

A patient of Jordan's, a miner from Idaho, called to consult me. After I examined him, I asked him if he had been to a doctor before. He said "Yes." He had been under Dr. Jordan's treatment three months and paid him \$600 without any benefit. Jordan guaranteed a cure, gave him medicine which lasted three months and when it gave out wrote for more. Instead of sending it, Jordan wrote him to come for further examination. He came and was examined again and Jordan told him his case was ten times worse than he thought it was in the first place and that it would take two bottles of medicine costing \$250 a bottle, in the East Indies, \$500 more, but his medicine would cure him, but he would have to confine himself to a dark room for two months and avoid the sun's rays as it would paralyze him.

The victim told Jordan that he did not have the money and if he had he would think twice before paying it as he could have no more surety than of a cure than when he paid him \$600 for it. So it brought him to me and for a nominal fee I treated him to his satisfaction.

Another of Jordan's patients brought me one of Jordan's books and left it with me. In reading it over I found it identical with Kahn's book, the only difference being Dr. Jordan's name in place of Kahn's and the location.

During the mining stock days, fortunes were made and lost in a day. A mining man from the State of Nevada consulted Dr. Jordan and he must have scared him badly when he gave Jordan a check on the Bank of California for \$10,000. When the man recovered his composure, he consulted another physician who told him he had been robbed and to demand his money back and if he did not get it to employ a lawyer and bring suit for it and have the court declare Jordan a fraud.

The man made the demand and Jordan tried to bluff him off and the suit was brought, which appeared in the Evening Bulletin at the time, but

it never came to trial as Jordan satisfied the claim.

Some time after I visited Paris and near the Medical Department of the University of France in the Rue de L'Ecole de Medicine, was a store where all kinds of anatomical preparations and surgical instruments were manufactured and on sale. The proprietor told me that he had sold to Dr. Jordan of San Francisco \$4000 worth of real and imaginary preparations and if I wanted a model made to represent any disease he would carry it out in wax, rubber or plaster colored to nature. I told him I was not interested in that line.

Years after Dr. Hastings, after retiring from the Marine Hospital, bought the museum from Jordan and ran it some time. Finally Dr. Hastings died and his family, not wanting to run it, put it in the hands of the late L. P. Fisher, the advertising agent, for sale. Mr. Fisher called on me and said I could buy it very cheap. I thanked him for calling on me. I would not take it as a gift as the reputation I had honestly earned I would not tarnish by having anything to do with it, so please excuse me. To the credit and memory of Dr. Hastings whilst he had it I heard no complaints from it.

A man named Oesting, a druggist, bought it and then the complaints came in thick and fast.

It puzzled me for a long time how the operators of the Jordan Museum got the names of their victims. They simply got them from the election poll lists throughout the country and sent the books by mail. Fancy a jealously inclined woman getting the book addressed to her husband and when he gets home asking him what is the matter with him. Answer, nothing. Oh! yes there is. She swings Jordan's book on him and there is the evidence of it. It takes some time to allay the trouble caused by Jordan's book. I annex a leaf from the book that tells you of the wonders of Jordan's Microscopic Test.

It has been a long fight to rid the state of quacks and vampires. To the Medical Societies, the Boards of Medical Examiners and Federal Courts belong the credit of the great victory of driving the medical frauds to prison and the Jordan Museum to the junk heap in Golden Gate avenue.

Microscopic Test.

The only positive means yet discovered for obtaining a correct knowledge of a patient's case is by testing his urine with the latest and best constructed microscope. The microscopic test is the only true method of determining whether or not the patient is suffering from seminal weakness, as the presence of Spermatozoa in the urine proves conclusively that it contains Semen, also and of even greater importance whether the spermatozoa of which the seminal fluid is principally composed, is imbued with that vitality without which the semen is unfitted to perform its functions. In short, the microscope enables us to ascertain whether the seed is healthy or otherwise. We would advise all patients to send their urine for examination. Patients wishing a urinary analysis should securely pack a bottle of morning urine and ship to us by express or mail. Also, all forms of disease of the brain, stomach, kidneys, liver and bladder are positively told by a thorough chemical and microscopical analysis of the urine.

IN THE TROUBLED PART OF THE WORLD.

Herewith are two letters from Dr. Eloesser, who left San Francisco some months ago to do surgical work in Germany:

Reserve-Lazarett V,
Karlsruhe, den 1/Nov./15.

Dr. P. M. Jones,
San Francisco.
Dear Doctor Jones:

Although everyday life goes on in a way here that scarcely lets one know that there is a war,—although one eats, drinks, goes to the theater or to a concert and sleeps undisturbedly afterwards, there are a few articles for which Germany is dependent on outside sources, whose scarcity is beginning to make itself felt. One of the main things is rubber; one feels the scarcity somewhat in hospital work. We still have rubber gloves, but we have to be sparing of them, and mend them and make them go as far as we can. The last time I was at headquarters I spoke to the Surgeon General of this Army Corps about it and asked whether I mightn't write to the Embassy at Berlin and see whether gloves, which after all are devoted to purely medical and humane purposes, would be considered as contraband by the English if purchased and imported from America via Holland or Norway, and if so, whether it mightn't be possible to get them through via the American Red Cross, provided a collection were taken up for the purpose. The Embassy answered very kindly and promptly that they had telegraphed the Red Cross at Washington that gloves were needed here and that they stood ready to receive and distribute a consignment in case one were sent. Thereupon I have written various German-American daily papers and friends soliciting their aid in getting up a collection for the American Red Cross to be devoted to the purpose. I am writing to you with the same end in view. If you think that it would be worth while, and that the medical profession would contribute I would be obliged if you would publish an appeal in the Journal, and if it's not asking too much, to exert your influence with the J. A. M. A. to have an appeal published there. Quite aside from the many German-American medical men, enough Americans who have studied in Germany should be glad to grasp this opportunity to show their gratitude for what they have learned, and what had been offered them here liberally and openly.

I have been very busy here up to the last week or so when things have begun to slacken, now that the attempt at a break through the West front seems to have resulted in a definite failure. The hospital has 240 beds; less than I had at my disposal in my former place (Ettlingen) but much more active. The hospital is for severely wounded; we have numerous other beds to which we can transfer patients as soon as they are well enough to be up and about, or not to need active surgical intervention or careful watching. This gives us as much material as we can take care of. The cases here are of the gravest kind. With the last transport we got mainly septic fractures and along with these a number of cases of injury to the vessels. The cases seem to run in groups here as well as in civil practice.

Work is satisfactory. They have been more than kind and accommodating to me at headquarters. I am my own master and subject only to occasional tours of inspection by higher officials, such as are made through all hospitals. Karlsruhe is near enough the front to get cases early—within twenty-four hours of injury sometimes, and still near enough Heidelberg and other universities to enable one to avail oneself of all the bacteriological and pathological aid that one wants, so that there is no excuse for not properly observing or treating

the cases. This hospital is in a brand-new manual training school, which has never been used as such, but was immediately converted into a hospital as soon as it was finished at the beginning of the war. It lacks nothing in the way of equipment—only rubber gloves are scant, and you'll help me get those.

With best regards,

Very Sincerely,
ELOESSER.

I am making this appeal in no official capacity, but purely in a private way, and am sending a check for \$25.00 to the Red Cross for the purpose myself.

Reserve-Lazarett V,
Karlsruhe, Baden, Nov. 3, 1915.

Dr. P. M. Jones,
San Francisco,
Dear Doctor Jones:

I am in receipt to-day of a letter from the American Embassy at Berlin that the American Red Cross would be glad to comply with their request for the shipment of rubber gloves, but that it had been unable to obtain the consent of the British Government for the shipment of rubber hospital supplies to Germany.

Further comment seems superfluous. If the Red Cross accepts this without energetic protest it seems a sad reflection on their neutrality.

I wrote you day before yesterday asking your aid in putting the matter of a collection for a fund to be devoted to the purchase of rubber gloves to be sent via the Red Cross before the medical public. Needless to say, I need not ask you to trouble about it, unless you care to mention the matter as it stands.

Things have gotten a little quieter here since I wrote but we are still busy enough.

With best regards,

Yours very sincerely,
ELOESSER.

THE ABDERHALDEN TEST.

J. Bronfenbrenner, M. J. Schlesinger and W. T. Mitchell, Pittsburg ("Journal A. M. A.," Oct. 9, 1915), report their investigation of the Abderhalden test, in which they notice the differences in opinion in regard to it and claim that it is not as difficult as many other serologic methods. It does not, they say, depend on the presence in the serum of specific ferments. They came to the conclusion that in no case is the placenta digested and that the mechanism of the reaction is entirely different from that ascribed to it by Abderhalden. They found that, as first suggested by Stephen and Hauptman, that the Abderhalden test is possible only with the serum containing complement and that when that is missing any fresh serum is able to activate the test, thus showing that at least the active principle in the digestion is not specific. Their experiments show that within certain quantitative limits the reaction remains specific, but if the substratum is in excess it may act mechanically and the reaction becomes non-specific. It appears to consist of two consecutive phases. In the first the antigen of the substratum unites with the antibody of the specific serum, and in the second phase such a "sensitized substratum" absorbs antitrypsin and permits autodigestion of the serum. They actually separated the two phases by preventing the autodigestion of fresh serum immediately after the sensitization of the substances. They conclude from their whole study that the test depends on the presence of specific substances in the serum which are not of a fermentative nature. The substratum is not digested and dialyzable split products originate not from the substratum but from the autodigestion of the serum. Analysis of the test shows

that it consists of two phases, and they say their own study suggests another possible modification of the procedure of Abderhalden which should take advantage of the property of the substratum to become sensitized by the specific serum so as later to give up dialyzable substances when placed in contact with any fresh human or animal serum. Such a method would permit the examination of serum taken at any time, no matter what the condition of the patient might be. The procedure is the following: After remaining over night in contact with suspected serum in the ice box, placenta (or any other substance, as the case may be) is centrifuged, washed with water to remove any serum which may adhere to it, and placed in a new thimble with any fresh serum that happens to be on hand. The best for this purpose is serum from a guinea-pig kept without food long enough (from six to eight hours) to free its blood from dialyzable ninhydrin reactive substances. It is necessary to first examine for pregnancy, since fresh serum from a female guinea-pig might give a positive reaction with placenta in the test, thus leading to error.

THE "AUTOLYSIN" TREATMENT FOR CANCER.

Modern science calls for proof—proof as indubitable and unqualified as the case will permit. Scientific men accept new theories and new alleged facts only when they are supported by reliable evidence. Especially is this true in the realm of scientific medicine. Unlike the exact sciences, there are in medicine so many elements which may vitiate definite conclusions that the careful physician is slow to accept claims made for new therapeutic agents. And rightly so; for human health and life are too valuable to be made the sport of untried theories and unsupported claims. In a world largely dominated by commercial instincts, this unwillingness on the part of the physician to accept, at its face value, every claim made for a new therapeutic product has long been a source of irritation to the exploiter. It is not surprising, then, that the refinements of twentieth century advertising have been brought to bear in overcoming the physician's caution—a caution exercised wholly in the interests of his patients; hence the spectacle, during recent years, of the exploitation of additions to materia medica—some of which may have had an appearance of at least quasi-scientific value—brought to the notice of the public, rather than to the medical profession, by every art known to the modern advertiser. At the same time a semblance of scientific standing has been given the products by publishing in such medical journals as would accept them articles describing these products. The theory, apparently, on which such methods are based is that by creating a sufficient demand on the part of the public for these products, the physician will be dragooned into using preparations which his sober judgment tells him have not passed through the refining fires of scientific investigation. It is only necessary to call to mind the Friedmann "consumption cure" campaign, and the resurrection of the discredited scopolamin-morphin anesthesia under the popular name of "Twilight Sleep," to realize the potentialities for harm that this method of exploitation carries.

The most recent example of this pernicious method of bringing into the public eye new therapeutic agents is exemplified in what has been called the "autolysin" treatment for cancer. Early in the publicity movement for this treatment "The Journal" urged caution, calling attention to the secrecy and the unscientific character of the formula. "Autolysin" was brought into the

limelight of publicity chiefly through the medium of sensational newspaper and magazine articles. This was accomplished before the preparation had been so tried out as to establish, without question, its value or lack of value. Its exploitation makes the thoughtful wonder whether it belongs in the realm of scientific discovery or in that of crude commercialism. As is always to be found in such cases, the failures are minimized and the successes are heralded. Its use for all practical purposes has been wholly in the hands of its friends and promoters. Naturally, reports emanating from such sources must be looked on as *ex parte* statements, rather than as scientific records. The time has evidently come, as it will come in all such cases, when we may expect to hear the other side. A little while ago "The Journal" published a disclaimer from a Detroit physician whose name had been connected with one of the magazine articles boosting the treatment. Elsewhere in this issue is further evidence on the other side. Also, "The Journal" submits some correspondence relative to the exploitation of this new product, dealing with the commercial aspect of the case.

Some of the best brains in the world are working on the problem of the prevention and cure of cancer; so far the solution is not in sight. When it comes it will come as a gift of medical science to humanity. It will not come in the form of secret and mysterious combinations controlled by a few individuals to be doled out to those who are able, or willing, to pay the toll demanded. It will be determined after a series of experiments carefully conducted under scientific control in various institutions and under the observation of disinterested, scientific workers. Only under such conditions will it be possible to declare, with any degree of scientific accuracy, that a successful treatment has been established.

Whether the "autolysin" mixture may possess some elements of value in combating the scourge of cancer must be left to the future to decide. Even should it be found of use this would not alter the fact that the methods of exploitation have been unworthy of scientific men, and in their effects on the public, the very refinement of cruelty.—"Journal A. M. A."

BOOK REVIEWS

A Mechanistic View of War and Peace. By George W. Crile. Edited by Amy F. Rowland. Illustrated. 104 pages. Published by The Macmillan Company, New York. 1915. Price, \$1.25.

Some one has said that Crile discovered Darwin's Origin of the Species and never got over it. It is indeed well that a few writers have the intelligence to apply the principles of Darwin's philosophy to medical thought. In this present book Crile uses his genius for seeing things from a basic standpoint. He describes the phenomena of war: attack, retreat, trench fighting, artillery fire, fatigue, loss of sleep, effect of injury and pain, courage and death, showing their effects upon the psychic and physiologic reaction and the tissue changes resulting. In the biologic interpretation of war he explains the emotions on which the tendency to combat is built. Fear is the basis of hatred. Games of contest are but miniature battles. Action patterns of war are among the earliest mental acquisitions of childhood. In England sports take the place of the war impulse of the individual, while in Germany the war idea is their national game. The author defines German "Kultur" in its highest biologic interpretation—an altruism based on force. Germany in arms is Nietzsche in philosophy. The individual ally be-

gins by assuming the right of the individual; the German begins by renouncing the right of the individual and recognizes only the right of the state. He leads this to its ultimate application, the conquering army cannot supplant the influence of a hating mother who plants action patterns in the brains of her children. A chapter devoted to the vivisection of Belgium is more explanatory of the principles of psychic phenomena than unneutral in attitude. In looking forward Crile's idea of evolution toward peace seems to indicate the part that woman's emancipation will play in the inhibition of man's lust for murder. It includes the planting of corrected hero pictures in the minds of children. Side by side with the glories of war should be placed the filth, the degradation, the disfigurement, the economic disaster, the hatred and death. Out of tribal jealousy and fear spring the emotions of combat. As we evolved through wreck and struggle, so must evolution carry us through these grosser forms of savage competition. S. T. P.

The Clinical Anatomy of the Gastro-Intestinal Tract. By Wingate Todd, M. B., Ch. B., F. R. C. S., Professor of Anatomy in the Western Reserve University, Cleveland, U. S. A., late Lecturer in Anatomy in the University of Manchester. Crown 8vo.; 264 pages, with 32 illustrations. \$1.75. University of Manchester Publication, No. xcix. Longmans, Green & Co., London, New York, Bombay, etc. 1915.

The theory and practice of gastroenterology have been so changed in recent years by the X-ray and by the experience of surgeons that most of the textbooks are hopelessly out of date. To be sure, new editions appear, but often the chapters on X-ray diagnosis, on duodenal ulcer, gastric symptoms in chronic appendicitis, etc., are patches and botched ones at that. They not only do not renovate the garment but they call attention to its defects.

All over the country, hospitals are putting in modern X-ray equipment and men with little or no experience are earnestly trying to diagnose gastrointestinal disease with the new methods. A number of them have asked us—What can we read; where is the book that contains the essentials we need, and, in addition, the references that will give us an entree to the literature? Our perplexity in answering this question has been lessened enormously by the appearance of Dr. Todd's book, which is, in the main, a compact and well written epitome of the recent literature, not only on the anatomy but on the physiology of the digestive tract. A man who is doing any thinking or writing along this line will want it on a convenient shelf with such books as Cannon's "Mechanical Factors of Digestion," Pawlow's "Work of the Digestive Glands," Taylor's "Digestion and Metabolism," Hertz's "Constipation" and "The Sensibility of the Alimentary Canal," Barclay's "Stomach and Esophagus," etc.

One of the most interesting and valuable points about Dr. Todd's book is that he makes use of the anatomic information that has been obtained by means of the X-ray and bismuth meal. Our ideas are changing, and it is to be hoped that before long physicians will become so used to seeing prolapsed stomachs and colons that they will feel no desire to stitch them up somewhere, that they may conform to the picture in Gray's Anatomy.

Dr. Todd has put us all under obligations by giving the titles and correct references to three hundred and fifty articles, dealing with his subject. Anyone who is interested in gastroenterology can read the book from cover to cover like a novel. W. C. A.

Exercise in Education and Medicine. By R. Tait McKenzie, A. B., M. D., Professor of Physical Education, and Director of the Department, University of Pennsylvania. Octavo of 585 pages, with 478 illustrations. Philadelphia and London: W. B. Saunders Company. 1915. Cloth, \$4.00 net; half morocco, \$5.50 net.

It is divided into two sections, one on exercise in education and the educational value of exercise, which part is not only interesting, but really fascinating. It gives a very ample résumé of what has been done in various sorts of schools and colleges. Though there is, of necessity, considerable repetition, the repetition is not of the sort to bore the reader, but rather to fix the facts in his mind.

The second part of the book on the use of corrective exercises, etc., is not, to the physician, at least, up to the standard of the first part. The writer is naturally enthusiastic and is therefore over sanguine as to the benefit of exercise in such conditions as scoliosis, hernia, and club-foot. This part of the book is not full enough of explicit direction for one to be able to use it as a practical guide, but it gives a résumé of what has been done, and if the optimism that pervades it is carefully considered it is one that is well worth perusal by anyone interested in this subject.

A. L. F.

What to Eat and Why. By G. Carroll Smith, M. D., of Boston, Mass. Second edition, thoroughly revised. Octavo of 377 pages. Philadelphia and London: W. B. Saunders Company. 1915. Cloth, \$2.50 net.

Our interest in dietetics has increased markedly in the last few years if we are to judge by the number of books which have appeared on the subject. If the average physician happens to think of prescribing a diet at all, he will probably tell the patient to take plenty of milk and eggs or he will speak vaguely of plenty of nutritious food.

A book that has been reprinted three times in four years must have brought some satisfaction to men who were seeking to lessen their ignorance on this subject. Looking through the volume we find evidence of much good sense, and we rejoice that the author has raised his voice to protest against some current practices.

For instance, on page 267, he warns against the dangers of suddenly putting large amounts of coarse food into a relaxed and atonic digestive tract, simply because the patient happens to be constipated. On page 270 he remarks upon the increasing dread of laxatives that lately has seized upon patients and physicians. We cannot see why a powerful mechanical irritation should be so much better than a slight chemical stimulus. On page 276, he says coarse foods should be shunned in all cases of hypertonic constipation, as they can only add to the spasm. He might also have remarked that most of the cases that are radio-scoped show the spastic type. The article on nephritis is refreshing. He knows that there is no difference practically between red and white meat, or between animal and vegetable protein; he finds his nephritics are no worse on a reasonable protein allowance; and he knows how to use the salt free diet.

The faults that we cannot overlook are those so common to textbooks. The book is padded with much that is irrelevant while important chapters are left weak and insufficient. The trouble may be with us as readers. We will pay six dollars for a 600-page book, but if 500 pages of repetitions, loose and contradictory statements, obsolete methods and illustrations, useless classifications and erroneous statements were edited

out, we might not buy it for a dollar and a half. About a third of the space in this book is given to topics that belong more to a book on internal medicine or on diagnosis.

The next common fault is a lack of physiologic knowledge. For instance, page 292, "It is the duty of the bile acids to break up the fat molecules of the food"; page 293, "Alkaline waters in large amounts between meals will increase the flow of bile and render it less viscid." In making the first statement, the author may have had in mind the assistance bile acids render to the lipase by helping the emulsion. We doubt whether the last statement could be proven; no such effect is noted in bile fistula dogs. On page 312 he speaks of the lubricant effect of oil in the intestine, as if the food were a piston going through a rigid pipe. He believes small frequent meals must be given in gastropnoia, ignoring the physiologic fact that the walls of a hollow organ must be stretched before they will contract, and that an atonic stomach empties better after a large meal than after a small one. Not remembering that the gastric mucous membrane is insensitive to hydrochloric acid, he falls into the common error of confusing pyrosis, or heartburn, with hyperacidity (p. 213). Even a markedly subacid juice may cause heartburn when it is regurgitated into the sensitive esophagus. The discussion of the dietetic treatment of hyperacidity and hypersecretion reminds us that a little knowledge may be a dangerous thing. One authority says we must give no protein, as that stimulates secretion; another says we should give more protein to neutralize the acid; others advise the giving of fats to inhibit secretion; while still others interdict fats because they increase gastric stasis, etc. A similar conflict of opinion is seen in the feeding of achylia. While all these supposedly scientific methods are being tried out on the poor patient, his ulcer or appendix may perforate, or his gall-stone may become impacted.

The author is very daring to discuss the treatment of primary hyperacidity in these days when our experience with the "pathology of the living" has made us doubt the very existence of such a thing.

The next common fault is inconsistency. What is the use of having some vegetables puréed, to get rid of their indigestible cellulose if, at the same time, we order celery, lettuce, green corn, string beans, etc.? (p. 217.) What is the use of giving small liquid meals to gastropnoia and then adding coarse vegetables? (p. 225.)

Instead of taking the time to prescribe (p. 206) melons, oranges, grapes, carrots, green corn, tomatoes, etc., for a man who can still get some food through his cancerous stomach, we would rather tell him to go eat anything he wanted. Perhaps fortunately that is what nine patients out of ten do anyway when the doctor prescribes a diet.

A nice digestible list for an asthmatic is found on page 158, containing pineapple, berries, marmalade and finnan haddie.

On pages 196 and 208 the author speaks of nutrient enemata as if he thought they were nutrient. It seems to us that the literature on the subject should at least shake his faith. If Dr. Smith will continue the stool examinations that he has begun, we believe that more method and consistency will come into his diet prescribing. We venture to prophesy that the subject will remain abstruse and chaotic as long as an attempt is made to prescribe thirty different diets for people with thirty different disease labels. We see no reason why a rheumatic, an asthmatic or a man with heart disease should have his diet changed if he has already found what he can live on comfortably.

W. C. A.

SOCIETY REPORTS

ALAMEDA COUNTY.

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, September 28, 1915.

The meeting was called to order by the president and the minutes of the previous meeting were read and approved.

Dr. Wills then presented the case of fracture of the surgical neck of the humerus upon which he operated at the last meeting of the society. It showed a perfect result.

Dr. Gay read his paper upon "Specific Therapy in Typhoid Fever."

Dr. Strietmann, chairman of the Public Health Committee, reported that a conference had been held with the city bacteriologist of Oakland and that he seemed to be very sincere in his work and willing to cooperate in any way to relieve any feeling of discontent that may have grown up. He stated that more conferences are to be held.

Considerable discussion was had in regard to providing more meetings of the society each month and it was informally decided that the Council should proceed with arrangements for such meetings.

There being no further business the meeting adjourned.

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, October 19, 1915. The meeting was called to order by the president, Dr. Reinle, and the minutes of the previous meeting read and approved.

The following program was presented:

I. Development, Pathology and Care of the Teeth with Special Reference to Children (illustrated). Dr. John E. Gurley, Professor of Chemistry, College of Dentistry, University of California.

II. The Mouth Hygiene Problem from the Educational and Economical Viewpoint (illustrated). Dr. Guy S. Millberry, Dean of the College of Dentistry, University of California.

Both papers were very interesting and instructive.

The members of the Alameda County District Dental Society were guests of the evening.

There being no business the meeting adjourned.

ELMER E. BRINCKERHOFF,
Secretary.

KERN COUNTY.

On Friday evening, November 19, one dozen members of the association met at the residence of the secretary, Dr. A. I. Fraser. In the absence of Dr. G. O. H. Buchner, president, Dr. Morris took the chair.

After general routine business, cases were presented by Drs. T. M. McNamara, F. A. Hamlin and C. A. Morris, with X-ray demonstrations.

The subject, not a new one, "Membership," was introduced and discussed, as well as "What Shall be Done at the Regular Meeting of the Association in December?"

Adjournment, and now, and at this time Dr. Fraser demonstrated that he possesses a thorough knowledge of "comparative anatomy" by clinic. The "once was" big fat turkey was dismembered, disarticulated, amputated, resected, incised, dissected, "tripanned" and finally masticated, to the great edification of all "medicos" present, and it was said by them all, "'Tis good to be here." Isn't it wonderful, the effect of such a distribution of "good eats" to the members of the medical profession? All differences disappear. All look alike,

act alike, eat alike, and at last feel alike, and seem at peace with the world.

Drs. Compton, Cook, Copeland (of McFarland), Fraser, Goodall, Gundry, Hamlin, McNamara, Marshall, Morris, Owen and Smith say to the non-attendants: "Now aren't you sorry? Serves you right though. If you had only sent your regrets you could have had at least a sterile toothpick, tastin' of turkey." Do what you may, work as you will, there is nothing like the "catin' meetin'" to demonstrate good fellowship. Our secretary did us all good and himself proud.

W. H. COOK, M. D.

PLACER COUNTY.

The Placer County Medical Society held its annual meeting Saturday evening, December 4, 1915, in Auburn, at the Tahoe Club, which very kindly offered the use of one of its rooms.

The following officers were elected for the ensuing year: President, Dr. H. T. Rooney, Colfax; vice-president, Dr. C. P. Jones, Grass Valley; secretary-treasurer, Dr. Robert A. Peers, Colfax; delegate to the State Society, Dr. I. G. Mackay, East Auburn; alternate, Dr. G. H. Fay, East Auburn.

Dr. J. L. Beard, Alleghany, was elected to membership.

The annual dues were increased one dollar per year, from \$6.50 to \$7.50.

The report of the secretary-treasurer showed that the society had gained in membership during the year and that the interest in the work of the society was increasing.

The president appointed as a board of censors Dr. Allen of Newcastle, Dr. Horne of Auburn, and Dr. Couture of Auburn.

The next meeting will be held in Auburn.

ROBERT A. PEERS, Secretary.

POLYCLINIC SOCIETY.

The San Francisco Polyclinic Society held its regular meeting October 21, 1915, at 8:45 p. m., President A. J. Zobel in the chair. The scientific program was as follows:

1. Presentation of a case of Naevus and a case of Scabies, with demonstration and outline of treatment. Dr. Martin Regensburger.

2. Report of removal of an unusually large Goitre with demonstrations of specimen. Dr. H. A. L. Ryfkogel. Discussed by Drs. D'Arcy Power, Sanford Blum and Philip King Brown.

3. Report of two cases of Cerebral Leses with demonstration of the patients. Dr. Philip H. Pierson. Discussed by Drs. W. B. Stevens, Sterling Bunnell, Sanford Blum, D'Arcy Power and Philip King Brown.

HARRY P. ROBERTS, Secretary.

SACRAMENTO COUNTY.

The regular October meeting of the Sacramento Society for Medical Improvement was called to order by Dr. J. B. Harris, at the Hotel Sacramento, at 8:45 p. m., October 19, 1915. Thirty-eight members present.

Report of cases:

Dr. Fay reported a case of Brain Tumor.

Dr. Harris reported the operation.

Dr. Diepenbrock reported the pathological examination.

Dr. Twitchell discussed the regeneration of blood pipettes.

Dr. Reynolds reported a case of mitral insufficiency.

Paper of the evening read by Dr. W. C. Alvarez, San Francisco. Discussed by Drs. E. W. Twitchell, R. N. Bramhall, J. W. James, S. E. Simmons and J. B. Harris. Closed by Dr. Alvarez.

Board of directors' report heard.

Adjourned 10:40 p. m.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of October, 1915, the following meetings were held:

Mount Zion Hospital Clinical Evening, Tuesday, October 5th.

1. Tumor of Mediastinum; demonstration of Patient; X-ray Plates, etc. E. Schmoll.

2. Three Types of Pulmonary Tuberculosis Treated by Artificial Pneumothorax. W. C. Voor-sanger.

3. Myopathy: Demonstration of Patient. W. C. Beerman.

4. Indications for Cesarean Section, with Report of Cases. R. K. Smith and L. I. Breistein.

5. Myositis Ossificans Demonstration of Patient; Lantern Slides; X-ray Plates, etc. J. Rosenstirn.

6. Acute Suppurative Parotitis with Thrombosis of the Internal Jugular and Subclavian Vein. H. Brunn.

7. Simplified Technic for making the Bone Graft. C. G. Levison.

8. Demonstration of X-ray Plates. O. W. Ginsberg.

General Meeting, Tuesday, October 12th.

1. Estimation of Surgical Risks. Frank Hinman. Discussed by M. Silverberg.

2. Preliminary Report. Arsenic in the Cerebrospinal Fluid following the Administration of Neosalvarsan. J. H. Barbat.

3. Are We Making Progress in the Early Recognition of Tuberculosis? G. H. Evans. Discussed by W. C. Voorsanger, C. W. Lippmann and G. H. Evans.

Surgical Section, Tuesday, October 19th.

1. The Treatment of Pernicious Nausea and Vomiting of Pregnancy. Frank W. Lynch. Discussed by Thomas Addis, A. B. Spalding, J. J. Hogan, H. A. Stephenson and F. W. Lynch.

2. Retrodiseplacements of the Uterus, with special reference to their causation, and a new method of treatment. J. Craig Neel. Discussed by W. G. Moore, F. W. Lynch, A. B. Spalding and J. C. Neel.

Eye, Ear, Nose and Throat Section, Tuesday, October 26th.

1. X-rays of Foreign Body (Chicken Bone) in the Esophagus. H. B. Graham.

2. Instrument for Removal of Secondary Cataracts: Forceps, one blade of which is knife needle, other blade with teeth. A. S. Green.

3. The Education of the Medical Specialist. R. L. Wilbur. Discussed by A. Barkan, F. Dudley Tait, C. F. Welty and R. L. Wilbur.

4. The Specialist's Relations to his Patient and to the Medical Profession. Henry Horn. Discussed by K. Pischel and C. F. Welty.

5. Who Does Your Optical Work? Percival Dolman. Discussed by W. F. Blake, A. S. Green, K. Pischel and P. Dolman.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the offices of Drs. B. F. and G. W. Walker on Friday evening, November 26. The following members were present: Drs. R. T. McGurk, L. Dozier, J. T. Davison, Hudson Smythe, Margaret Smyth, C. F. English, H. J. Bolinger, F. P. Clark, B. F. Walker, G. W. Walker and D. R. Powell, with Drs. Frank Burton, Sr., and J. H. Dooley of the dental pro-

session as guests. Nominations for directors and committees for 1916 were made, the names to be voted on at the annual meeting in December.

The paper of the evening was given by Dr. B. F. Walker upon "Maldevelopment of the Upper Respiratory Tract—Its Effects and Correction." In his paper, Dr. Walker very clearly brought out the relationship of mouth breathing, produced usually by tonsils and adenoids as a causative factor, in the maldevelopment of the palatal arch and the alignment of the upper teeth. He illustrated his point by the demonstration of plaster impressions showing the narrow, high palatal arch and the overlapping and malformation of the upper teeth. He advocated a closer co-operation between the specialist and the orthodontist in the correction of these defects.

The paper was discussed at considerable length by Dr. Dooley from the standpoint of the dentist, and also by Dr. Burton, who spoke of the tedious and nerve-racking work of the orthodontist and the question of educating the layman to appreciate the value of his efforts. He suggested that it would be mutual benefit to have a joint meeting of the dental association and the San Joaquin County Medical Society upon a subject of common interest, such as pyorrhea. The paper was further discussed by a number present and closed by Dr. Walker.

The meeting adjourned for a social hour and the enjoyment of a delicious buffet lunch.

DEWEY R. POWELL, Secretary.

SANTA BARBARA COUNTY MEDICAL SOCIETY—JOINT MEETING WITH VENTURA COUNTY MEDICAL SOCIETY.

The Santa Barbara County Medical Society met in joint session with the Ventura County Medical Society at the Arlington Hotel in Santa Barbara, Monday, November 8, 1915, at 8 p. m., the meeting having been preceded by an informal hotel dinner.

The said joint session was called to order by William H. Flint, M. D., as the Santa Barbara executive. Present from Ventura county Drs. Avery, Herbert, Jensen, Osborn, Livingston, Peek and Kortz, and from Santa Barbara county Drs. Bakewell, Barry, Flint, R. Brown, Low, Ryan, Stevens and Wells, a total collective number present of fifteen.

The president passed immediately to the scientific program and called for Dr. Allen H. Peek's (of Oxnard) paper entitled "Chronic Primary Cystitis in Women by Direct Infection of the Bacillus Coli Communis." The paper contained many original observations, the salient feature being the frequency of bladder infection, in the female, with the Bacillus coli communis from the rectum through the urethra, and the almost specific action, upon the inflammation so set up, of a 10% solution of quinin and urea, to which Dr. Peek adds some chloretone for anesthetic effect. I think the proportion of said 10% solution to a pint of water is four ounces. Dr. Barry opened the discussion of Dr. Peek's paper, other members quite generally following.

The president then announced the Santa Barbara section of the program, "Anesthetics and General Anesthesia," by Dr. Charles S. Stevens of Santa Barbara. It would be impossible in these brief minutes to give the scope and range of this interesting paper, going as it did into the discovery and history of the two great anesthetics: chloroform and ether, with their uses, and touching also upon the minor general anesthetics, such as nitrous oxide and chloride ethyl. Suffice it to say that the ground was well covered. The data

also brought out the legal aspect of the administration of anesthetics: that where a physician gave it, the anesthetist and surgeon shared the responsibility mutually, but when administered by a nurse that the full and entire responsibility for all results must be borne by the surgeon employing the nurse. An interesting and spirited discussion followed the reading of Dr. Stevens' paper, which was led by Dr. Herbert of Santa Paula. The gist of it was that ether was usually to be chosen in surgical work because it could be handled more easily, administered freely, requiring less professional skill, and owing to its wonderful stimulating properties, rarely caused death. On the other hand, chloroform, more potent, more powerful, and therefore more dangerous, must be exhibited with special caution and skill. This closed the scientific part of the program.

Dr. Flint announced the death of Mrs. Charles S. Stoddard, the wife of one of our members, and requested the reading of resolutions of sympathy and respect. These were given respectful attention and warmly and unanimously adopted, being ordered spread upon the minutes, transmitted to the family of the deceased, and published in the daily press.

The chair then stated that a motion for adjournment would be entertained. This was duly moved and seconded, and the joint session dissolved to meet at Ventura three months hence.

W. T. BARRY, Secretary.

SISKIYOU COUNTY.

The physicians of Siskiyou County met in Yreka on Monday, November 15, and founded the Siskiyou County Medical Society.

The constitution and by-laws for county societies, as prepared by the American Medical Association, were adopted, and the following officers were elected:

President—Dr. C. W. Nutting of Etna Mills.

Vice-President—Dr. A. A. Milliken of Ft. Jones.

Secretary—J. Roy Jones of Yreka.

The first meeting of the society will be held on the first Monday in January, and a meeting will be held on the first Monday of each quarter thereafter, the July meeting to be known as the annual meeting.

J. ROY JONES, Secretary.

SOUTHERN CALIFORNIA MEDICAL SOCIETY.

The fifty-third regular semi-annual meeting of the Southern California Medical Society was held in Los Angeles on December 1 and 2, 1915.

The meeting was exceptionally well attended. The papers presented were of great interest, and the discussions stimulated by them were full of spirit and enthusiasm.

The second day of the meeting was devoted to clinics at the County Hospital. The next meeting of the society will be held on the first Wednesday and Thursday in May at Pomona.

Neoplasms of the Central Nervous System with Personal Experiences. Dr. Thomas J. Orbison, Los Angeles. Discussion opened by Dr. Charles L. Allen of Los Angeles.

Preoperative and Postoperative Care. Dr. Olga McNeile, Los Angeles.

The Mayo Operation for Uterine Prolapse. Dr. J. K. Swindt, Pomona.

Hypertrophic Stenosis of the Pylorus with Report of Cases. Dr. Eliot Alden, Los Angeles.

Criminal Abortions and the Medical Profession. Dr. C. D. Ball, Santa Ana.

Exhibition of Patient Operated Upon (Iliogigmoidoscopy) One Year ago before this Society

for Chronic Infectious Arthritis. Drs. Rea Smith and Charles W. Anderson, Los Angeles.

Exhibition of a Patient Operated Upon (Histioidinosis) Eight Weeks Ago for Chronic Infectious Arthritis. Dr. Harlan Shoemaker, Los Angeles.

Focal Infections with Report of Cases. Dr. Philip M. Savage, San Bernardino. Discussion opened by Dr. Walter Brem of Los Angeles.

Our Responsibility in Acute Appendicitis. Dr. C. Van Zwahlenburg, Riverside. Discussion opened by Dr. Clarence E. Moore of Los Angeles.

The Obscure Manifestations of Otitis Media in Infancy and Childhood. Dr. John A. Colliver, Los Angeles. Discussion opened by Dr. Hill Hastings of Los Angeles.

President's address.

The Hereditary Element in Health and Disease. Dr. F. W. Thomas, Claremont.

Clinical Manifestations of Tumors and unusual Inflammations of the Abdomen. Dr. Philip King Brown, San Francisco.

Medical Technique, an Introductory Paper. Dr. John W. Flinn, Prescott, Ariz.

An Arthroplasty of the Elbow. Dr. Rexwald Brown, Santa Barbara. Discussion opened by Dr. Ellis W. Jones of Los Angeles.

Surgery of the Alimentary Canal. Dr. C. P. Thomas, Los Angeles. Discussion opened by Dr. W. W. Richardson of Los Angeles.

Indications and Contraindications for Tuberculin Therapy. Dr. Walter C. Klotz, Los Angeles. Discussion opened by Dr. F. M. Pottenger of Monrovia.

The Toxemias of Pregnancy. Dr. F. C. Ainley, Los Angeles. Discussion opened by Dr. Titian Coffey of Los Angeles.

Rupture of the Intestine. Dr. Maurice Kahn, Los Angeles.

The Internal Secretions with Special Reference to the Treatment of Chronic Disease. Dr. Henry R. Harrower, New York.

The following officers were elected for the coming year:

President, Dr. John A. Colliver, Los Angeles; first vice-president, Dr. W. W. Richardson, Los Angeles; second vice-president, Dr. Rexwald Brown, Santa Barbara; secretary and treasurer, Dr. Walter Brem, Los Angeles.

(Signed)

F. W. THOMAS, Retiring President.

WALTER BREM, Secretary-Treasurer.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED L. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Bismuth Tribromphenate.—Basic bismuth tribromphenate. It is claimed to be a non-irritant and non-toxic antiseptic and an odorless and efficient substitute for iodoform. It is said to be of

value in gastro-intestinal catarrh, proctitis, dysentery, diarrheas, etc. Merck & Co., New York (Jour. A. M. A., Nov. 13, 1915, p. 1731).

Butyl-Chloral Hydrate, Merck.—A non-proprietary brand of butyl-chloral hydrate admitted to New and Nonofficial Remedies. Merck & Co., New York (Jour. A. M. A., Nov. 13, 1915, p. 1731).

Ethyl Bromide, Merck.—A non-proprietary brand of ethyl bromide admitted to New and Nonofficial Remedies. Merck & Co., New York.

Homatropine Hydrochloride, Merck.—A non-proprietary brand of homatropine hydrochloride admitted to New and Nonofficial Remedies. Merck & Co., New York.

Sodium Cacodylate, Merck.—A non-proprietary brand of sodium cacodylate admitted to New and Nonofficial Remedies. Merck & Co., New York.

Iodothyrene Tablets.—Three grains. Each tablet contains iodothyrene 3 grains. The Bayer Company, Inc., New York.

Thyresol Pearls, 5 grains.—Each pearl contains thyresol 5 grains. The Bayer Company, Inc., New York.

Theosin-Sodium Acetate Tablets, 1½ grains.—Each tablet contains theosin sodium acetate 0.1 Gm. H. K. Mulford Co., Philadelphia.

Ampuls Emetine Hydrochloride, Mulford, 1-12 grain.—Each ampule contains emetine hydrochloride 0.005 Gm. H. K. Mulford Co., Philadelphia.

Ampuls Emetine Hydrochloride, Mulford, 1/3 grain.—Each ampule contains emetine hydrochloride 0.02 Gm. H. K. Mulford Co., Philadelphia.

Ampuls Emetine Hydrochloride, Mulford, 2/3 grain.—Each ampule contains emetine hydrochloride 0.04 Gm. H. K. Mulford Co., Philadelphia.

Ampuls Sodium Cacodylate, Mulford, 1½ grains.—Each ampule contains sodium cacodylate 0.1 Gm. H. K. Mulford Co., Philadelphia.

Ampuls Sodium Cacodylate, Mulford, 3 grains.—Each ampule contains sodium cacodylate 0.2 Gm. H. K. Mulford Co., Philadelphia.

Ampuls Quinine and Urea Hydrochloride, 1% Mulford.—Each ampule contains 5 cc. of a sterile 1% solution of quinine and urea hydrochloride. H. K. Mulford Co., Philadelphia.

Ampuls Mercury Succinimide, Mulford, 1/6 grain.—Each ampule contains mercury succinimide 0.01 Gm. H. K. Mulford Co., Philadelphia.

Calcium Peroxide P. W. R.—A non-proprietary preparation of calcium peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

Magnesium Peroxide P. W. R.—A non-proprietary preparation of magnesium peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

Sodium Peroxide P. W. R.—A non-proprietary preparation of sodium peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

Strontium Peroxide, P. W. R.—A non-proprietary preparation of strontium peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

Zinc Peroxide, P. W. R.—A non-proprietary preparation of zinc peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

Sodium Perborate, P. W. R.—A non-proprietary preparation of sodium perborate admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

Formic Acid, Merck.—A non-proprietary preparation of formic acid admitted to New and Nonofficial Remedies. Merck & Co., New York.

Agar-Agar Powder, Merck.—A non-proprietary preparation of agar-agar admitted to New and Nonofficial Remedies. Merck & Co., New York.

Agar-Agar Shreds, Merck.—A non-proprietary preparation of agar-agar admitted to New and Nonofficial Remedies. Merck & Co., New York.

Berberine Hydrochloride, Merck.—A non-proprietary preparation of Berberine hydrochloride admitted to New and Nonofficial Remedies. Merck & Co., New York.

Fluorescein, Merck.—A non-proprietary preparation of fluorescein admitted to New and Nonofficial Remedies. Merck & Co., New York.

Mercury Cyanide, Merck.—A non-proprietary preparation of mercury cyanide admitted to New and Non-official Remedies. Merck & Co., New York.

Mercury and Potassium Iodide, Merck.—A non-proprietary preparation of potassium mercuric iodide admitted to New and Nonofficial Remedies. Merck & Co., New York.

Swan's Typhoid Bacterin (No. 44) (Prophylactic).—Marketed in packages of three 1 Cc. vials and also in packages of six 1 Cc. vials. Swan-Myers Company, Indianapolis, Ind. (Jour. A. M. A., Nov. 27, 1915, p. 1915).

ITEMS OF INTEREST.

Anesthesin.—Anesthesin is paramino-ethyl-benzoate. New and Nonofficial Remedies states that it is one of the products which owe their existence to the discovery that the local anesthetic action of cocaine is due to the radical of benzoate acid in combination with a nitrogen-containing basic group. Treasury Decision 2184 contemplates the registration of anesthesin under the Harrison narcotic law (Jour. A. M. A., Nov. 20, 1915, p. 1837).

Laxative Bromo Quinine.—From the analysis of the A. M. A. Chemical Laboratory it appears that each tablet of Laxative Bromo Quinine contains, as essential ingredients, phenacetin about 2 grs., caffeine 1/5 gr., quinine or cinchona alkaloid 2/5 gr. and aloin or aloes. While the name gives the impression that bromine and quinine are the important ingredients, the bromide content corresponds only to 1/500 part of a pharmacopoeial dose of potassium bromide. In order to get a pharmacopoeial dose of quinine, it would be necessary to take ten Laxative Bromo Quinine Tablets. If this were done the person would get twenty grains phenacetin, a dangerously poisonous dose. As phenacetin is the essential ingredient of Laxative Bromo Quinine it is evident that this widely exploited nostrum is misbranded (Jour. A. M. A., Nov. 27, 1915, p. 1932).

Intesti-Fermin.—"May we count on your assistance" ingenuously inquires the Berlin Laboratory, Ltd., in an advertisement appearing in a medical journal, and with cool effrontery continues, "We are telling the layman about Intesti-Fermin . . . May we count on your assistance in spreading this message to everyone . . . ?" May they? (Jour. A. M. A., Nov. 13, 1915, p. 1736).

Swan's Rheumatic Bacterin (Mixed), No. 47.—According to the manufacturer, The Swan-Myers Company, Indianapolis, Ind., this preparation contains pneumococci, Friedlaender's bacilli and streptococci (polyvalent). The Council on Pharmacy and Chemistry refused to admit this vaccine to New and Nonofficial Remedies because there is no satisfactory evidence that either the pneumococcus or Friedlaender bacillus is concerned in the etiology of acute or chronic rheumatism or rheumatoid arthritis and no conclusive evidence that the streptococcus is an etiologic factor (Jour. A. M. A., Nov. 6, 1915, p. 1662).

The Autolysin Treatment.—There were strong evidences from the beginning of a commercial spirit in the exploitation of this treatment. Letters sent to physicians further illustrate the method of promoting this unproved and possibly dangerous treatment. Dr. Richard Weil, who had the opportunity of personally witnessing the application of this compound in a long series of cases at the General Memorial Hospital, expresses the belief that autolysin is useless, that it adds nothing of value to the methods now generally accepted, and that it often aggravates the sufferings and accelerates the death of the patient (Jour. A. M. A., Nov. 6, 1915, pp. 1641, 1647 and 1662).

Freckle and Beauty Lotions.—The worthlessness and, in many instances, the dangerous character of nostrums sold as freckle removers and beautifying preparations are indicated by the following analyses, taken from the reports of various state chemists: Hill's Freckle Lotion was found to be 1.84 per cent. solution of corrosive mercuric chloride. Kingsbery's Freckle Lotion was found to be a solution of corrosive mercuric chloride containing 5.3 parts in 1000. Kulux Compound, a "prescription fake" freckle and tan remover, was found to contain zinc oxide, bismuth subcarbonate, glycerine and water. Mrs. McCorrison's Famous Diamond Lotion No. 1, said to remove moths, freckles, pimples, etc., was found to be essentially a solution of 28.2 parts of corrosive mercuric chloride in 1000 of water. Neroxin, a "prescription fake" said to remove blackheads, was found to contain boric 55 per cent., and "soda" 25 per cent. Othine, sold as a freckle remover, is reported to contain bismuth subnitrate and ammoniated mercury with a fatty base. Perry's Moth and Freckle Lotion Compound was found to be a 16 in 1000 solution of corrosive mercuric chloride containing in addition a small amount of a lead salt. Pyroxin, sold on the "prescription fake" plan as an eyebrow and eyelash grower, was found to be perfumed vaseline. Rose-Kayloin, advertised in fake health departments of some newspapers, was found to contain 80 per cent. sulphate and 15 per cent. potassium carbonate. Mme. Rupert's Face Bleach is reported to be a 4 in 1000 alcoholic solution of corrosive mercuric chloride, containing a small amount of benzoin. Stillman's Freckle Cream was found to be an ammoniated mercury paste. Tan-A-Zin, a complexion beautifier, was found to have for its essential ingredient ammoniated mercury. Sarah Thompson's "Wrinkle Lotion" was found to contain alum 7 per cent., glycerine 29 per cent., and water 64 per cent. Zintone, said to produce a faultless complexion quickly, is reported to contain borax 23 per cent., stearic acid and soap 77 per cent. Though the external use of mercury salts is fraught with danger, the nostrums above shown to contain such poisonous ingredients are sold with the claim that they are practically harmless (Jour. A. M. A., Nov. 20, 1915, p. 1835, and Nov. 27, 1915, p. 1933).

RED CROSS STAMPS.

All California this year seems to have come to the front and enlisted its efforts to help fight tuberculosis. Now that the sale of Red Cross Stamps has begun and some hundreds of workers all over the state have volunteered their services at the busiest season of the year, it means that more nurses, more dispensaries, more beds in the tuberculosis wards of the county hospitals will be provided for those made poor by the ravages of the white plague.

The Red Cross Seals in the past year have raised nearly \$2,000,000 for tuberculosis work, besides assisting in the creation of public sentiment for preventive measures. The first seals or stamps

sold in this country were sold during the Civil War for the benefit of relief funds for the sick soldiers. Today the pendulum has indeed swung in the other direction, and the seals are now used for soldiers on another fighting line. All the money raised will be spent in California, after the expenses for printing and advertising are paid to the Red Cross.

TRACHOMA.

I am enclosing a notice which we are this day mailing to the chiefs of the various eye clinics in San Francisco.

Unquestionably there are many physicians practicing in San Francisco who are not aware of the fact that trachoma is one of the reportable diseases. Its importance to the community at large is so great that I can not help but ask your assistance in publishing through the "State Journal" the substance of the enclosed notice and asking the co-operation of all physicians in general practice or engaged in the specialty to report all suspicious as well as verified cases of trachoma to the Board of Health of their respective locality.

California, in spite of its large foreign population, has been comparatively free, so far as children of a school age are concerned, but any negligence on the part of the authorities or physicians will result in a spread of this affliction to at this time will be a procedure of great difficulty within a few years' time.

Thanking you for your co-operation, I am,

Respectfully,

WILLIAM C. HASSLER.

Health Officer.

JAPANESE CAREFUL TO REGISTER ALL BIRTHS.

The registration of births seems to be of more interest to Japanese in California than to the white population, for during the year 1914, in proportion to population, three Japanese births were registered with the California State Board of Health to every white birth. Japanese associations scattered throughout California pay close attention to birth registration, in order that all Japanese children born in California may establish their legal status as American citizens.

It is probable that not more than ninety per cent of white births are registered with the California State Board of Health in accordance with the law. While it is true that many births attended by midwives are not reported, it is probable that the ten per cent of births which are unrecorded are due in a large measure to carelessness and neglect upon the part of physicians. Foreign born parents are generally particular to have the births of their children registered.

The distribution of many fortunes and many a question of property rights have rested solely upon the existence of a birth certificate, yet American citizens are exceedingly careless in attending to this important matter. The registration of a child's birth is its first birthright.

Under the new registration law, a birth certificate must be filed within thirty-six hours after the date of birth. The health officer in cities having a freeholders charter is local registrar, with whom such birth certificates should be filed. The city clerk is the proper official for registration in other cities and incorporated towns, and the county recorder is the registrar for the remainder of each county.

During the year 1914 there were 35,513 children born of white parents in California and 2,874 Japanese children were born in the state during the same year, according to the records of the California State Board of Health.

BOARD OF MEDICAL EXAMINERS.

Los Angeles, Cal., Nov. 16, 1915.

Editor of the California State Journal of Medicine,
San Francisco, Cal.

Dear Sir:

In the September number of the Journal, there appeared several fairly long editorials concerning the Board of Medical Examiners of the State of California and relating to the Osteopaths. The spirit of these articles not only tended to reflect on the integrity and loyalty of the Board in supporting the best interests of the medical profession in California, but also tended to create an impression that the members of the board were false to their obligations in their administration of medical regulation in the state.

It is to be regretted that the author of these editorials did not avail himself of the opportunity of learning the facts involved, which he could easily have done by a visit to the office of the secretary of the board, situated in the same building as his own, and making a careful study of the matter at issue.

A historical review of the essentials of the several medical laws of California will help to a better understanding of the subject under discussion. Permit me to relate that prior to August 1, 1901, any person holding a diploma from a reputable medical college could obtain a license in California by the registration of the diploma. After the above date until 1907, in order to obtain a physician and surgeon's license, one must have had a degree of M. D., a diploma from a medical college meeting the requirements of the Association of American Medical Colleges for that year, and also pass a written examination before the Board of Medical Examiners. During this period, to obtain an Osteopathic license, the applicant must have been a graduate of an Osteopathic college and must have met the requirements of the Osteopathic Board of Examiners, a separate board. This law (of 1901) specifically prohibited the holder of an Osteopathic certificate from using drugs or practicing major surgery.

The legislature of 1907 repealed all of the existing Medical Practice Acts, and passed a law creating a single composite Board of Medical Examiners for all classes of applicants, and so from 1907 to 1913, all applicants took the same examination in the basic subjects of anatomy, histology, pathology, chemistry, physiology, hygiene, obstetrics, gynecology, bacteriology, and diagnosis. You will note that none were examined in treatment, either medical or surgical, nor in materia medica or therapeutics. There was this difference, however, in the kinds of certificates issued. Applicants having an M. D. degree, and meeting with the requirements of the Association of American Medical Colleges, were granted an unlimited certificate, while the applicants who were graduates of the Osteopathic colleges were granted an Osteopathic certificate.

The legislature of 1913 repealed the foregoing law, and passed the "Avey Bill," which provided, as before, for a single conjoint board, and for the issuing of three classes of certificates, namely: 1, Reciprocity; 2, Physician and Surgeon's, and 3, Drugless Practitioner's certificate. It also provided that certain standards must be met by colleges as to pre-medical requirements, hours of teaching, etc., and that the colleges must be approved by the California State Board, either as a physician and surgeon's college, or as a drugless college.

In June, 1914, the board adopted the "Dr. Alderson Report," which was the majority report of the board's college committee. This report of Dr. Alderson's was a strong and valuable one, and was responsible more than any other measure for

the bringing about of improved college conditions in California. This report recommended that all of the medical colleges in the state, excepting the Pacific College of Osteopathy, the Los Angeles College of Osteopathy and the Pacific Medical College, be approved for a period of one year as physicians' and surgeons' colleges. The first two of the exceptions were approved only as drugless colleges, and the third was not approved even as a drugless college.

A few months after the adoption of this report, the two Osteopathic colleges surrendered their charters, and a new college, the Los Angeles College of Osteopathic Physicians and Surgeons, was incorporated and chartered. This new college was really a union of the two Osteopathic colleges, and combined all of the students, teachers and equipment into one college. Legally, however, the new college was neither approved nor disapproved by the board, so that formal action by the board was necessary to this end. Of course, the State Medical Board has nothing to do with the granting of charters to educational institutions, this being a function of the administrative officials of the state at large.

In June, 1915, the board adopted the "Dr. Molony Report" of the college committee, which recommended for approval as physicians and surgeons' colleges, the following:

Medical Department of the University of California;

Medical Department of Stanford University;

Medical Department of University of Southern California;

Loma Linda;

Oakland College of Medicine.

Note:—The Hahnemann College of San Francisco, prior to the "Molony Report," went out of existence through absorption by the University of California. A part of the "Molony Report" is as follows:

Supplementary to our letter of June 8th setting forth statements of contemplated improvements or changes in the Osteopathic College of Physicians and Surgeons for the coming year, we wish to offer the following:

That a general renovation of the College, and changes necessary to put into effect the various improvements contemplated, will be undertaken as rapidly as time and money will permit.

Control.

That the control and ownership will be positively vested in the Osteopathic Association of California through its College Board of Trustees.

Endowment.

That the endowment, as it becomes available from time to time, will be securely invested in interest bearing securities, and the principal will be left intact.

Advertising.

All advertising will be in accord with an educational and scientific spirit, and with the idea of co-operating fully with the medical law and the administration thereof.

Credentials.

Before matriculating any student in any class, we will demand that he present a certificate of the valuation of his credential by the Board or its accredited agents.

Faculty.

That the faculty will be re-arranged, especial attention being given to the placing of men to teach subjects having a direct relation to each other.

Classes.

That two classes of under-graduates will be started each year. One in the fall and one in the spring. That the summer vacation time be used only for post-graduate teaching.

Clinics.

That the amount of bedside, laboratory and out-patient clinical teaching will be increased, so as to utilize the major part of the time of each course. That the college clinics will be re-organized, and a surgical department of minor surgery, of diseases of children, of nervous diseases, of skin, and genito-urinary, will be installed. That the Department of Eye, Ear, Nose and Throat will be re-arranged to more suitably handle this work. That the clinical laboratory will be moved to a more suitable location, easily accessible to the

clinical departments, and properly equipped and supervised. That satisfactory case records will be kept of each case, and properly filed and indexed.

Hospital.

That an effort will be made to encourage the use of the hospital to its capacity, for teaching purposes.

Obstetrics.

That this department will be carefully organized to the end that each student be given an opportunity to conduct at least six cases during his third and fourth years, and that other experience and demonstration be accorded.

Anatomy.

The present dissecting room will be adapted exclusively to the laboratory of anatomy, using only six tables. The room will be renovated and put in proper and acceptable condition, and arrangements made to so keep it. That the cadavers be stored and prepared in a separate room. That a satisfactory system of work and quizzing in this laboratory will be maintained, and material undergoing dissection will be properly cared for. That a museum of Osteology or a collection of bones for the use of the students will be started. Said bones being loaned to the students for their use during the study of anatomy.

Physiology.

A laboratory will be installed containing all apparatus necessary to the giving and maintaining of a modern laboratory course in Physiology. That animals will be used in this work.

Chemistry.

Provisions will be made to increase the facilities for teaching Physiological Chemistry.

Pharmacology Materia Medica.

That sufficient equipment to familiarize students with the various drugs, pharmaceutical mixtures, and standard solutions of U. S. P. will be installed. Students will have practical work in this department.

Embryology.

Lectures on this subject will be supplemented by a satisfactory laboratory course.

Histology and Bacteriology.

The work in these departments will be systematized. Improved and added facilities will be installed.

Pathology.

That a museum of Pathology will be started containing properly prepared specimens of various definite pathological conditions, labelled and accompanied by sufficient clinical history to be of teaching value. That post-mortem study will be made a part of the regular work.

Library.

That a room of sufficient size, adapted to the purpose, will be set aside for library purposes. Library to be outfitted with a well selected number of text and reference books. This library will be accessible to the students at all times. Also that the current literature, in the shape of journals covering the full scope of the progress of the various departments of medicine and allied subjects, will be maintained.

Museum.

Anything which will be of value and instruction to a student of medicine will be gathered together and placed on exhibition in a room for this purpose. That our students will not be encouraged to take the drugless examination at the end of their second year. That no space in the college building will be given over to the use of any social organization. The rooms now utilized by these societies will be used for teaching purposes.

On the basis of the completion, by December 1, 1915, of this extensive list of improvements and additions to the buildings, faculty and equipment, the Los Angeles College of Osteopathic Physicians and Surgeons, the California Eclectic College, and the Physicians and Surgeons College of San Francisco, were temporarily approved to December 1, 1915. As these colleges will not graduate anyone prior to this date, the board felt justified and safe in giving them a chance to live by affording them an opportunity to come up to the requirements of the board. The California Eclectic College decided that they were unable to meet these requirements, and suspended. The other two colleges have gone ahead, and at the present time have nearly completed the requirements as outlined in our schedule.

The members of our State Medical Society, and readers of our State Journal, will observe, therefore, that at the present time the medical college situation in California is in excellent shape. Our policy has been one of construction and not of destruction. During the life of the present board,

the number of medical colleges has been decreased by three, and those that still remain are stronger and better equipped for the work they have to do. Every matriculant of 1915, in every approved California medical college, has in his possession a medical student's certificate, issued by the accredited agents of the board after a rigid examination of his credentials, unless such student is the possessor of a college degree. So you see, Mr. Editor, that out of the maze of difficulties that beset the path of the board at the time of its organization, has come system and order, and medical affairs in the state of California are now definitely and satisfactorily regulated, at least to the minds of all fair-minded and law-abiding citizens. And it is the people, and not our society, which after all make the laws, and to ridicule the state board for doing the best constructive work possible, under the law passed by the legislature, would seem almost to be what might be called cheap or tearing down criticism.

The editor seems to find fault with the board because of the fact that the Osteopaths are given an opportunity to qualify for a physician and surgeon's certificate. Inasmuch as the Medical Practice Act, under which we are operating, and which we have sworn to uphold, gives an Osteopath and all others who can meet the requirements of the law this right, the board cannot deny them. To the minds of a number of members, it would appear that the editor has been manifestly unfair in his attitude towards the Board of Medical Examiners ever since its organization, and has taken every opportunity to unfairly criticize the governor and the legislature which fathered the last two Medical Practice Acts. Now, as a matter of fact, anyone conversant with the facts will not deny that the condition of medical licensure and regulation prevailing in California at this time, and due directly to the enforcement of the Avey and Benson bills, are generally satisfactory and a positive advance in the right direction.

The Medical Board has worked early and late, and has grappled with the many problems that confronted it, and has tried to meet every problem fairly and squarely. The results obtained seem to have met with the approval of all parties directly interested and affected in this matter, except the editor of the Journal.

Now, Mr. Editor, the members of the Board of Medical Examiners of California are doing their utmost to advance medical standards, working under a law which they did not pass, and the provisions of which they are trying to enforce to the best of their ability, working, as they must, with a diversified board and meeting conditions in the state as they stand at the present time. They can do nothing revolutionary. Rather their work has to be evolutionary in character.

The board and the members of the board have no apology or regrets to offer for any of its actions, which will all bear the light of day, and regret very much that the columns of the State Journal should have been used in an apparent effort to discredit their work, and to hold the members up to scorn before their fellow members of the state society.

Perfection in medical licensure and regulation is nowhere to be found, and to attain to this perfection, we should all work towards a common patriotic end, and our duty to our profession and our state is not discharged by sitting in our office and calling names, but rather by evincing a spirit of broad-mindedness which will be of real service in the work we have to do.

I have the honor to be very respectfully yours,
WM. R. MOLONY.

Vice-President and Chairman of the College Committee, Board of Medical Examiners of the State of California.

THE DECEMBER MEETING OF THE STATE BOARD OF HEALTH.

The State Board of Health met in Sacramento on December 4th. The following members were present: Dr. George E. Ebright, president; Dr. Fred F. Gundrum, vice-president; Dr. Adelaide Brown; Dr. Robert A. Peers; Dr. Edward F. Glaser, and Dr. Wilbur A. Sawyer, secretary.

It was decided to hold the January meeting on Saturday, January 8th, as the first Saturday is a legal holiday.

The appointment, previously made by the secretary, of Mr. E. K. Perry, river patrol officer of the city of Sacramento, as inspector of the State Board of Health, without salary, for the purpose of enforcing the stream pollution laws in connection with the Sacramento River above the city of Sacramento, was confirmed.

By formal motion the State Board of Health instructed the secretary to request the proper authorities to prohibit the use of public drinking cups and glasses and roller towels in any of the state buildings, on the ground that they are a menace to public health.

The Board passed a resolution approving the orders on sanitation in canneries, as presented in tentative form by the Industrial Welfare Commission, and expressed a willingness to give further consideration to the regulations when they had been passed in their final form by the Commission after the hearing required by law.

The matter of the enforcement of the newer legislation on milk sanitation was discussed. By formal resolution the Board announced that the provisions of Chapter 742, Statutes of 1915, requiring the grading of milk, tuberculin testing of cows and the pasteurization of milk from cows which have not been tuberculin tested, would be enforced as far as it devolves upon the State Board of Health to do so, and the secretary was instructed to confer with the State Dairy Bureau and the State Veterinarian regarding the enforcement of the law. This law goes into effect October 1st, 1916.

By the following resolution the Board announced its intention to undertake an investigation of hookworm in the mines of California in January.

"Resolved, That the State Board of Health will undertake an investigation of hookworm in the mines of California, in co-operation with the State Industrial Accident Commission, beginning in the latter part of January, 1916, and that a member of the staff of the Bureau of Communicable Diseases will be detailed to represent the Board in the field in connection with this investigation."

Several instances of neglect of local officers to perform their official duties, including the transmission of weekly communicable disease reports as required by law and by the regulations of the State Board of Health, were called to the attention of the Board. The secretary was instructed to consult with the attorney of the Board relative to an effective procedure for bringing this undesirable condition of affairs to an end, and the secretary was empowered to act in the premises.

By formal resolution the Board authorized the secretary to give physicians or health officers, who are remiss in their obligations under the law, an opportunity to appear before the Board and show cause why they should not be prosecuted.

The following resolution was passed:

"Resolved, That any licensed physician in the State of California desiring a Wassermann test in the case of a patient who is a resident of California may obtain same from the Bureau of Communicable Diseases."

The following regulation was passed:

"Resolved, That diphtheria carriers and typhoid carriers shall be permitted to travel only with the consent of the local health officers at the point of departure and of destination, and only with precautions for the protection of the public health, especially required by the health officer at the point of departure or by the State Board of Health."

Regulations for the control of malaria were read and discussed and adopted by the Board.

The secretary made a report on the rabies campaign carried out by the State Board of Health with the co-operation of the Federal authorities in Modoc county. The county was under state quarantine and had been organized into seventeen districts, each under the supervision of a state or Government officer. The destruction of coyotes and of dogs found at large was being rapidly and effectively carried forward.

The matter of the refusal of Los Angeles county to pay the fees required by a recently enacted law to local registrars was considered, and the following resolution was passed:

"Resolved, That the Board authorize the secretary to instruct the attorney for the Board to appear in an action in the event the officers of Los Angeles county continue to refuse payment of fees to deputy registrars under Chapter 378, Statutes of 1915."

On the recommendation of Mr. Gillespie, director of the Bureau of Sanitary Engineering, revocable permits for the discharge of sewage under specified conditions were granted to the Santa Fe Railroad Company at Calwa, and to Mr. Alexander Brown, owner of the Oriental quarter of Walnut Grove.

The suggestion of Mr. Gillespie that in addition to placarding polluted streams, provision be made for placing drinking faucets at convenient places along navigable streams, was favorably discussed and was left in the hands of the secretary with power to act.

The passage of the Federal bill establishing a subsidy for non-resident indigent tuberculosis patients was unanimously advocated by the Board in the following resolution:

"Whereas, The death rate from tuberculosis in California and other southwestern states is very large, reaching, for example, the rate of 362.5 per hundred thousand population in one county of California and a corresponding rate of 192.5 for the state as a whole; and

"Whereas, This high death rate is largely due to the influx from all the other states of the Union, of tuberculous patients, who are, most of them, in advanced stages of the disease and financially unable to provide proper care for themselves; and who, therefore, wander from county to county, unable to exercise proper precautions to prevent infecting others; and

"Whereas, The only opportunity for the great majority of tuberculosis patients to obtain necessary hospital care is at public expense in county hospitals, as is shown by the fact that seventy-five per cent of the patients dying of tuberculosis in California have an annual family income of less than one thousand dollars, and twenty-seven per cent of all children who have received state aid as orphans or half-orphans in California in the year 1914 lost one or both parents through tuberculosis; and

"Whereas, There are only 906 beds available for tuberculosis patients in county hospitals in California, while the average annual number of deaths is over 5,000, and the counties containing the largest proportion of cases from other states are unable to bear alone the double burden of

caring properly for the non-resident and the resident tuberculous even with the recently provided state aid for the latter; and a similar lack of bed capacity exists in the other southwestern states; and

"Whereas, Recent investigations by the United States Public Health Service show that there is an annual migration of between 10,000 and 15,000 tuberculous persons to the western and southwestern states, and that from 30 to 50 per cent of these patients die within six months after their arrival, and further, that from 40 to 90 per cent of all deaths from tuberculosis in the west and southwest are natives of other states; therefore

"Be It Resolved, That the California State Board of Health endorses the Federal bill which will provide for the payment of a subsidy to hospitals maintaining standards of equipment, diet and care established by the United States Public Health Service, and caring for tuberculous patients who are not residents of the state in which they are; and

"Be It Further Resolved, That copies of these resolutions, together with copies of the Federal bill, be transmitted to the Secretary of the Treasury of the United States, the Surgeon General of the Public Health Service, to the representatives in Congress from California, to the boards of health of all the states, to the National Association for the Study and Prevention of Tuberculosis, to the American Public Health Association, and to the American Medical Association."

A statement of standards which must be met by county hospitals before they will be accredited and thereby will become eligible for the tuberculosis subsidy, was presented by Miss E. M. L. Tate, director of the Bureau of Tuberculosis, and was approved by the Board.

On the recommendation of Miss Tate, the Board requested authorization of the Civil Service Commission for the appointment of a field worker in the Bureau of Tuberculosis, effective January 1, 1916, and the secretary was instructed and authorized to make the appointment subject to the approval of the proper authorities.

The Board considered a request from the State Board of Charities and Corrections and instructed the secretary to arrange with Miss Jammé, director of the Bureau of Registration of Nurses, for co-operation of the Bureau with the Board of Charities and Corrections in the matter of investigating whether the maternity register required by the latter Board is being kept and the semi-annual report is being made by hospitals which take maternity cases and maintain nurses' training schools.

The plan for holding examinations for the registration as registered nurses, was altered by the following resolution:

"Resolved, That after January 1, 1917, examinations for registration as registered nurses be held in April and October of each year simultaneously in San Francisco, Sacramento and Los Angeles, in co-operation with the State Civil Service Commission, under the terms of a resolution of this Board passed on October 2, 1915, and the communication of Mr. J. M. Hunter of the State Civil Service Commission, dated December 3, 1915; and

"Be It Further Resolved, That the examination announced for February and June, 1916, and an additional examination in October of that year, be held in the same manner."

On the recommendation of the director of the Bureau of Nurses certificates as registered nurse were granted to those nurses who had passed satisfactorily the examination held on October 12th and 13th in San Francisco.

The following hospitals, having been inspected by Miss Jammé and found to meet the require-

ments of the Board, were accredited for one year from date: Methodist Hospital, Los Angeles; Fairmount Hospital, San Francisco; Union Labor Hospital, Eureka.

On recommendation of Mr. E. J. Lea, two firms were granted licenses to operate cold storage warehouses.

The Board then considered violation of the food and drug laws and held the hearings set for this day. In each instance the Board determined by vote the disposition of the case.

WILBUR A. SAWYER, M. D.,
Secretary.

STEREOPTICON LOAN LIBRARY.

The stereopticon loan library established by the United States Public Health Service consists of over 2,000 views, the majority of which are original, dealing with the aspects of various public health problems. Additions are constantly being made to the collection. The slides are classified by diseases or subjects, the following being the respective divisions of the library:

Alaska.—Eighty-three views depicting living conditions in the Territory of Alaska, the type of villages and the diseases from which the natives suffer.

Children and Children's Diseases.—The various eruptive diseases of children are shown in fifty views. Chiefly of interest to physicians.

Health Exhibits.—Over ninety photographic slides of the exhibit of the U. S. Public Health Service at the Panama-Pacific International Exposition. Many of these views explain the means of dissemination of different diseases, the mortality therefrom and the value of preventive measures. All are original.

Hookworm.—The geographic distribution of the disease, its economic importance, the life history of the parasite, its invasion of human tissue and the resulting effects, are demonstrated in a series of over ninety slides.

Indians.—Housing and living conditions among American Indians. Shown in fifty views.

Leprosy.—Forty-five slides depicting the disease. Principally of service to physicians.

Living Conditions.—Contains a relatively small number of slides. See other subjects.

Malaria.—Prevalence of the disease, the malarial parasites, larval, pupal and adult developmental stages of mosquitoes, breeding places, methods of extermination, including oiling, drainage, and the types of fish destructive to larvae. Prevention of the disease by screening and the use of quinine. Two hundred and seventy-five views.

Milk.—Eighty views showing tuberculous cows, proper and improper stabling, care and treatment of dairy herds, methods of obtaining pure milk, spread of milk-borne epidemics and the value of sanitary measures.

Miscellaneous Subjects.—Sewage disposal, fumigation and cleaning of railway cars, and views relating to Rocky Mountain spotted fever.

Mouth Hygiene.—Twelve slides showing the development of the teeth.

Parasites and Organisms.—Over two hundred views of the common organisms causing the diseases of man, including different types of water organisms. Also the developmental stages of fleas, lice, flies, and disease-bearing vermin.

Pellagra.—Statistical data, geographical distribution and the lesions of the disease presented by sixty photographic slides.

Plague.—Perhaps the most complete collection of original plague slides extant. Practically every aspect of plague prevention is demonstrated, including the eradication of rodents and squirrels,

methods of rat-proofing, ship fumigation, the examination and classification of rats, the plague organism, and the relation of fleas to the spread of the disease. Over five hundred views.

Rural Schools.—Not yet complete. Ten slides.

Service General.—The activities of the U. S. Public Health Service depicted in 320 views. Quarantine vessels and stations, methods of fumigation, the examination of passengers, detention barracks and quarantine procedure. The mental and physical examination of immigrants, types of immigrants, and immigration stations. Marine hospitals, including the tuberculosis sanatorium at Fort Stanton, New Mexico.

Smallpox.—Ninety slides illustrating the eruptive stages of the disease, the protection afforded by vaccination and the lesions thereof.

Trachoma.—The disease in its acute and chronic stages, and such effects as pannus, entropion and blindness. Trachoma among the American Indians and the relief work of the Public Health Service in the mountains of Kentucky are also shown. One hundred and twenty slides, many of which are colored.

Tropical Diseases.—Incomplete. Filariæ, trypanosomes, and intestinal parasites illustrated, together with the common infections of the tropics. Forty views.

Tuberculosis.—One hundred slides showing the economic loss from tuberculosis, susceptible races, the tubercle bacillus, pathological conditions in the lungs, the relation of the disease to improper housing and the causes predisposing to infection. Also the methods of care, precautions to be exercised and the benefits of sanatorium treatment.

Typhoid Fever.—Of great public health interest. The role of uncleanliness, infected milk, polluted water, improper sewage disposal, and flies in the dissemination of the infection. Methods of prevention, including proper care of milk supplies, avoidance of water pollution and the prevention of fly breeding; 350 views.

Yellow Fever.—Mosquitoes in different stages of development, preventive measures, including detention camps. The discoverers of the means of transmission of the disease.

How to Use the Stereopticon Loan Library.

The slides are loaned to physicians, health organizations, educators, welfare workers and others without cost. Persons desiring slides should advise the Bureau as to what subjects they are interested in, so that the proper catalogues may be forwarded. The slides should be selected by number, and the request made upon the application blank. If desired, the Public Health Service will undertake to make the selection, provided the applicant will state what he wishes to illustrate. There is no arbitrary limit within which the slides are to be returned, but as the demand far exceeds the supply, it is expected that they will be returned at the earliest possible moment. Stereopticon lanterns are not loaned, but as the slides are of standard size, 3½ by 4 inches, any lantern may be used. It is expected that slides broken by careless handling or packing will be replaced; these to be ordered from the government contractor by the U. S. Public Health Service and the bill therefor to be paid by the borrower.

It is requested that in returning the slides a letter of transmittal be forwarded, stating the approximate number of persons to whom the views have been shown. The container should be labeled with the name and address of the sender, and returned by express prepaid or by mail. Photographs, from which it is possible to obtain slides of public health interest, will be gladly received and promptly returned.

NEW LICENTIATES.

Allen, Orah Knapp.

Babcock, Henry C.; Baldwin, Margaret Annie; Bashor, Ernest George; Bobbitt, Arthur Newton; Buckingham, John Royal; Budau, John Harry Diederichs; Bullard, Ernest Calvin.

Carr, Jesse Myron; Carter, Clarence Lamar; Clark, Elbert Ellsworth; Comstock, John Adams; Cooke, Harry Theodore; Coy, Louis Milton; Crawford, Albert Sturges.

Daniels, William Hardy; Davenport, Donald Edward; Denton, William Lemmon; DeWitt, Ada May; Dickson, Albert Robb; Dodge, William Wallace; Donaldson, Arthur Norton.

Eckles, James Eugene; Ellison, Everett Monroe; Ernst, Edward Cranch; Evans, Newton Gurdon.

Farwell, Margaret Withey; Foster, Percy Ashley; Germann, Albert Carl; Geith, Charles Robert; Gillispie, Samuel Tilden; Gough, Albert Sidney.

Haight, Louis Ludlow; Hardie, Wallace Bonton; Harris, Donald Eugene; Harrison, Charles William; Hathaway, George Wirt; Hedges, William Harry; Hedgardt, Nellie Florence Moore; Hodsdon, Benjamin Franklin; Hoeffer, Phillip Tiesler; Holt, Rufus Andrew Jr.; Hume, William Robert.

Jackson, Louis Harris.

Knapp, Harry Grove.

Langnecker, Harry Leslie; Larzalere, Ray Verplank; Lee, Morgan Prime; Long, Noah Webster; Lowe, Frank Alexander Luckie; James Buckner.

McEl Hinney, Joseph Hannold; Manson, Robert Morton; Maronde, John Augustus; Martin, Wallace Perry; Morgan, Gladys Myfanwy; Mulvehill, Walter William.

Nelson, Eugene Curry; Nixon, Charles Edward; O'Donnell, Earl William; O'Donnell, Francis Joseph.

Parrett, Owen Samuel; Piness, George; Powell, Mary.

Rauch, Laura Eugenie; Rochester, Alexander Sands; Roncovieri, Louis David; Rosenkranz, Samuel Victor; Runyan, Raymond Wentworth.

Sassen, Augusta Albertine; Saylin, Abraham Joseph; Schenck, Nellie; Sheld-Ritchie, Iner; Sherman, Benjamin Harry; Sims, Perry Norton; Sturgeon, Charles Theophile; Swearingen, Forrest Custer.

Thayer, Lyman Elanson; Thompson, Charles William; Trott, Leslie DeNyse.

Walker, William Henry; Watson, Samuel Humes; Weaver, Julia Blanche; White, Leroy Moran; Wichmann, Henry Thomas; Wiley, Carlisle Benjamin; Williams, Thomas Ward; Winter, William John; Woodworth, John Bennett; Wythe, Margaret.

Zener, Mary Linville; Zorb, George Anthony.

CAUSE AND CURE OF PELLAGRA.

Announcement was made at the Treasury Department recently that as a result of continued research and experiments of the Public Health Service, both the cause and the cure of pellagra have been discovered, and that the spread of this dread malady, which has been increasing in the United States at a terrific rate during the past few years, may now be checked and eventually eradicated. Assistant Secretary Newton, in charge of the Public Health Service, expressed great interest in the discovery and regards it as one of the most important achievements of medical science in recent years.

Pellagra has been increasing alarmingly throughout the United States during the last eight years, and it is estimated that 75,000 cases of the disease will have occurred in the United States in 1915, and of this number at least 7,500 will have died before the end of the year. In many sections only tuberculosis and pneumonia exceed it as a cause of death.

The final epoch-making experiment of the Public Health Service was carried out at the farm of the Mississippi State Penitentiary about eight miles east of Jackson, Miss., and together with the previous work of the Service completes the chain in the prevention and cure of the disease. The work at the Mississippi Farm has been in charge of Surgeon Joseph Goldberger and Assistant Surgeon G. A. Wheeler of the United States Public Health Service. The Farm consists of 3,200 acres, in the center of which is the convict camp. The final experiment was undertaken for the purpose of testing the possibility of producing pellagra in healthy human white adult males by a restricted, one-sided, mainly carbo-hydrate (cereal) diet. Of eleven convicts who volunteered for this experiment, six developed a typical dermatitis and mild nervous gastro-intestinal symptoms.

Experts, including Dr. E. H. Galloway, the secretary of the Mississippi State Board of Health, Dr. Nolan Stewart, formerly superintendent of the Mississippi State Hospital for the Insane, at Jackson, Dr. Marcus Hanse, professor of dermatology, Medical College of the University of Tennessee, Memphis, Tenn., and Dr. Martin R. Engman, professor of dermatology in the Washington Medical School, St. Louis, Mo., declare that the disease which was produced was true pellagra.

Prior to the commencement of these experiments no history could be found of the occurrence of pellagra on the penitentiary farm. On this farm are 75 or 80 convicts. Governor Earl Brewer offered to pardon twelve of the convicts who would volunteer for the experiment. They were assured that they would receive proper care throughout the experiment and treatment, should it be necessary. The diet given was bountiful and more than sufficient to sustain life. It differed from that given the other convicts merely in the absence of meats, milk, eggs, beans, peas and similar proteid foods. In every other particular the convicts selected for the experiment were treated exactly as were the remaining convicts. They had the same routine work and discipline, the same periods of recreation and the same water to drink. Their quarters were better than those of the other convicts. The diet given them consisted of biscuits, fried mush, grits and brown gravy, syrup, corn bread, cabbage, sweet potatoes, rice, collards and coffee with sugar. All components of the dietary were of the best quality and were properly cooked. As a preliminary, and to determine if the convicts were afflicted with any other disease, they were kept under observation from February 4th to April 9th, two and a half months, on which date the one-sided diet was begun.

Although the occurrence of nervous symptoms and gastro-intestinal disturbances was noted early, it was not until September 12th, or about five months after the beginning of the restricted diet, that the skin symptoms so characteristic of pellagra began to develop. These symptoms are considered as typical, every precaution being taken to make sure that they were not caused by any other disease. The convicts upon whom the experiment was being made, as well as twenty other convicts who were selected as controls, were kept under continuous medical surveillance. No cases of pellagra developed in camp excepting among those men who were on the restricted diet. The experimenters have therefore drawn the conclusion that pellagra has been caused in at least six of the eleven volunteers as a result of the one-sided diet on which they subsisted.

On the basis of this discovery, the states of Mississippi, Louisiana and Florida have laid their propaganda through their respective boards of health for the eradication of the disease.

VACCINES.

The Editor,

"California State Journal of Medicine,"
San Francisco, California.

Dear Sir:

Will you kindly insert in your "Journal" in some form that may seem suitable to you the following notice?

"The Evans Memorial for Clinical Research is desirous of coming into communication with as many physicians as possible who have used bacterial vaccines in the treatment of typhoid fever for the purpose of collecting statistics concerning the efficiency or non-efficiency of the method as a therapeutic measure. If any who have done this, even with only one or a few cases, will send their names and addresses, blank forms will be sent to them upon which uniform reports may be made. Due credit will be given to each in any reports that may be published. Kindly address all communications to Dr. W. H. Watters, 80 East Concord St., Boston, Mass."

Very sincerely yours,

FRANK C. RICHARDSON,
Clinical Director.

NON-RESIDENT TUBERCULOSIS CASES UNCARED FOR.

It is estimated that there is an annual influx to the Southwest of between ten and fifteen thousand non-resident cases of tuberculosis. A very large proportion of these are indigent or become indigent shortly after their arrival. Trains bearing such persons to California could not be stopped at the border lines and the patients turned back to the eastern states from which they came, even if such procedure were desired. They must be cared for; not to do so would be inhuman.

The California State Board of Health contends, however, that this is an unjust charge upon the community, that the Federal Government should aid in caring for these unfortunate persons. Accordingly, the Board is sponsoring a bill to be introduced in the next Congress, by which a subsidy of five dollars per week per patient may be paid to institutions caring for such non-resident cases, such institutions to maintain a standard required by the United States Public Health Service, under the jurisdiction of which Service the act would be enforced. Assistance in migrating to another state would render a patient ineligible for the subsidy.

Many tuberculous residents of eastern states come to California with a small amount of money, believing that the wonderful climate will effect a cure within a short time and that they may secure positions enabling them to earn a living. From thirty to fifty per cent of these persons die within six months after their arrival, and in some sections ten per cent of such non-resident cases die within thirty days after reaching the state.

Out of a thousand cases of tuberculosis cared for in the Los Angeles County Hospital during a single year, less than fifty were Californians. Most of the non-resident tuberculosis patients in this institution came from New York, Illinois, Missouri, Ohio, Indiana, Pennsylvania, Massachusetts, Iowa and Georgia. The problem of caring for indigent non-resident tuberculosis cases is found not only in California, however. Florida, Louis-

iana and North Carolina have the same problem, while New Mexico, Arizona, Texas and Colorado suffer from it to a greater extent than any states, with the exception of California.

NAVY.

Dear Sir:

The next examination for appointment in the Medical Corps of the Navy will be held on or about February 23, 1916, at Washington, D. C., Boston, Mass., New York, N. Y., Philadelphia, Pa., Norfolk, Va., Charleston, S. C., Great Lakes (Chicago) Ill., Mare Island, Cal., and Puget Sound, Wash.

Applicants must be citizens of the United States and must submit satisfactory evidence of preliminary education and medical education.

The first stage of the examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects: (a) anatomy, (b) physiology, (c) materia medica and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics.

The successful candidate then attends the course of instruction at the Naval Medical School, which will begin on or about October 1, 1916. During this course he receives a salary of \$2,000 per annum with allowances for quarters, heat and light, and at the end of the course, if he successfully passes an examination in the subjects taught in the school, he is commissioned an assistant surgeon in the Navy to fill a vacancy.

Full information with regard to the physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

The foregoing information is furnished, as it is believed that it is of interest to you, and that you will want to give it some notice in your "Journal."

Very truly yours,
W. C. BRAISTED,
Surgeon General, U. S. Navy.

NEW MEMBERS.

Martyn, George, Los Angeles.
Zeiler, A. H., Los Angeles.
Ide, C. E., Los Angeles.
Kinney, Lyell C., Los Angeles.
Smith, Charline R., Los Angeles.
Loomis, M. Le Roy, Los Angeles.
Beach, Everett C., Los Angeles.
Shattuck, Hobart P., Los Angeles.
Haygood, A. G., Downey, Cal.
Allen, Fredk. E., Oakland.
Hume, Wm. Robt., Oakland.
Sampson, J. H., Oakland.
Channell, D. B., Oakland.
Porter, W. S., Oakland.
Adams, John M., Centerville.
Worley, H. F., Oakland.

DEATHS.

Bullard, Rose Talbott, Los Angeles.
Hindley, G. J. Dr. (Died in the Dardanelles.)
Ashby, R. H., Roseville, Cal.
Clow, G. B. N., Oakland.
Guild, Caroline L., San Mateo.
Austin, R. E., San Diego.
Schwarz, Bernhardt S., San Francisco.
Peck, Geo. W., Sawtelle, Cal.
Deal, David L., Pacific Grove.
Ragan, Dennis F., San Francisco.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Fayette W. Birtch, M. D.

René Bine, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - - - Butler Building,
State Journal, - - - San Francisco.
Official Register, - - -

Telephone Douglas 2537

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV FEBRUARY, 1916

No. 2

EDITORIAL NOTES

FRESNO—1916.

Do not forget that the State Society meets in Fresno, April 18, 19 and 20, 1916, and that it is going to be a record meeting. It is a delightful time of the year, all the main roads and highways will be in the best possible condition, and it is expected that hundreds of members will motor to Fresno and combine a delightful trip to and from, with a delightful time at the meeting. It has been so long since the Society met there that most of our members do not realize or know what the hospitality of Fresno is; you will know after next April, beyond peradventure of a doubt. The Hotel Fresno will be the headquarters hotel, and all the meetings will be held right in the hotel, where there are an ample sufficiency of rooms quite large enough to accommodate the general sessions and all the sections and special meetings that may be arranged. Do not fail to make your plans now, to be with us then. April 18, 19 and 20.

STATUTES OF LIMITATION.

In spite of much that the JOURNAL has printed on this subject, from time to time, there seems still to be some misunderstanding on the part of many of our members as to just what the legal situation is. It has been held, from time immemorial, that personal rights and wrongs could not remain open questions for an indefinitely long period of time. Under the old common law, if a person was assaulted or injured or suffered some personal, physical wrong or injury, and did not take steps

to seek redress from the wrongdoer within "a year and a day," it was held to be an admission that he had no case and thereafter could bring no action for redress. Also, as far back as we may trace it, if one held undisputed possession of land for sixty years, it was held to be a good title to the land. In the passing centuries many changes have been made as to the period of years, but the fundamental principles remain the same to-day as they were centuries ago. By statute, the various states have determined what number of years shall elapse before a particular class of claims shall outlaw, or become void. In California, the time allowed one to bring an action for personal injuries—or torts, as they are called—is almost exactly what it was under the common law—one year. Practically all actions for damages for alleged malpractice are brought "in tort," and therefore they must be brought within one year of the time when the alleged injury was done, or they are void and on simple motion (pleading the statute) the suit is thrown out of court. In the language of the code, "An action for . . . injury to or for the death of one caused by the wrongful act or neglect of another . . ." must be brought within one year.

Now as to accounts or sums due the physician from his patient. Suit must be brought within four years if it is "an action to recover a balance due upon a mutual, open and current account or upon an open book-account."

Suit must be brought within two years, if it is "an action upon a contract, obligation or liability not founded upon an instrument of writing. . ."

In the ordinary case where the patient has been seen at various times and for various ailments and has paid something on account or some prior bill, the case would fall within the four-year limit. If it were something like a surgical operation, where the surgeon had stated that the operation and subsequent care would cost the patient say \$500, that might be construed as coming within the two-year period. Most actions, however, would not outlaw till the four years had passed; the construction of this section by the courts has been very liberal.

Now what is the import of this? If you sue a patient to collect a bill within one year of the termination of the services, he may in reply bring a suit against you for damages for alleged malpractice, setting forth that you were negligent in your treatment of him and thus claiming damages under the statute; and this suit will have to be regularly defended, tried with the evidence on both sides presented, and, generally, go to a jury for a verdict. If you wait for more than one year before bringing your suit to collect your bill, and the patient in reply files an action for damages, alleging negligence, it is outlawed; for his right to an action for personal injury lapsed at the end of one year.

The State Society has ruled, through its House of Delegates, that it will not defend a suit for alleged malpractice which has its origin in an action to collect a bill, brought within one year from the time of termination of last service.

PROGRAM COMMITTEE.

A number of inquiries are reaching this office as to how a place may be had upon the program for the next meeting, at Fresno, April 18, 19 and 20. The Chairman of the Committee is Dr. Ray Lyman Wilbur and the Secretary is Dr. Harry E. Alderson. At the last meeting the By-Laws were amended so as to place upon the Program Committee the Secretary of the Genito-Urinary Section and the Secretary of the Eye, Ear, Nose and Throat Section. These Secretaries are, respectively, Dr. Wm. E. Stevens, San Francisco, and Dr. Wintermute, San Francisco. Those who intended to present papers at the Fresno meeting had better write to Dr. Wilbur or Dr. Alderson at once. It will probably be a very full program—and a very interesting one; a preliminary outline will be published in the next issue.

THE A. M. A. LAW SUIT!

The facts about the widely heralded suit "against the American Medical Trust" are almost funny. The A. M. A. has not yet been sued and all the legal battle of the last five years was an attempt to compel a district attorney, who knew better, to bring such a fool suit! A short item in a recent issue of the *Journal A. M. A.* explains the whole matter. Here it is:

THE INCORPORATION OF THE AMERICAN MEDICAL ASSOCIATION.

On last Monday, December 20, the Supreme Court of Illinois rendered a ruling—it was not a decision, as the newspapers stated, but simply a ruling—in the case of Lydston vs. The State's Attorney. The newspapers, in sweeping statements—inspired?—have carried the impression that the ruling is against the American Medical Association; that the officers, including trustees, are holding their offices illegally; that a new election must be held immediately, etc. Nothing could be farther from the truth. It is the old story; it is merely another step in the case started about the time of the meeting of the American Medical Association in St. Louis in 1910, at which time Lydston tried to compel the state's attorney to bring quo warranto proceedings against the Association. The American Medical Association has not yet technically been brought into the case; thus far the issue has been between Lydston and the state's attorney. The technical announcement of the ruling just made is "Hoyne, State's Attorney, vs. People ex rel; Lydston; petition certiorari denied." The state's attorney tried to get a decision from the Supreme Court, but the Supreme Court declined to hear the case at this time and therefore denied the writ of certiorari.—*Journal A. M. A.*

INDIGENT TUBERCULOTICS.

The problem of the non-resident, indigent tuberculous has been and is one of the hardest problems to work out in the fight against tuberculosis. Who is to care for or treat or properly guide these unfortunates? It seems to be one of those cases of what is everybody's business is nobody's business. A plan has been suggested, however, and agreed upon by the State Board of Health and the California Association for the Study and Prevention of Tuberculosis, which apparently offers at least a partial solution of the difficulty. These two bodies have endorsed, and will ask the next Congress to

enact, a bill providing for the subsidy, as it were, of certain hospitals which come up to standards approved by the Public Health Service and which will care for this class of patients. It seems quite clearly to be a government burden; an indigent non-resident is an anomalous animal; he is really not a just burden to the state he happens to be in, nor can he justly be said to belong as a charge upon the state he has left. If he is made a burden equally to all the states, as all suffer more or less alike relative to their population, etc., his care becomes more equably distributed. It is very much in point of Mr. Spencer's sociologic axiom that "the greater the area over which any given evil is distributed, the less will it be felt by any individual in that area." The tentative bill will be found in full in another part of the *JOURNAL*. We should give it all the help that we can.

SOCIAL INSURANCE.

A bill for state health insurance is to be introduced into the New York legislature this month through the efforts of the American Association for Labor Legislation. This bill provides that all manual workers and all others earning less than \$100 a month shall be insured and that the cost of insurance is to be divided between employer, worker and state. The insurance will provide each workman with medical attention including hospital and nursing care and the necessary medicines and surgical appliances, and with a cash benefit equal to two-thirds of wages for a maximum of twenty-six weeks in a year. The bill offers an insured woman obstetrical aid at her confinement, and offers the family a small funeral benefit should the wage earner die. The insurance is to be carried through mutual associations of employers and employees under state supervision.

The administrative details for providing medical care are to be worked out in consultation with the medical profession. Already the American Medical Association has appointed a committee consisting of Dr. Alexander Lambert of New York, chairman; Dr. Henry B. Favill of Chicago, and Dr. Frederic Cotton of Boston, to co-operate with the American Association for Labor Legislation. Physicians in California which has appointed the first state commission on Social Insurance should be particularly alive to the importance of this movement and alive to the necessity of maintaining close contact with the newly created California commission.

ABUSE OF THE MAILS BY PHYSICIANS; DANGER!!

Dr. Geiger, of the State Health Department, has been good enough to prepare the following remarks on this most important subject. It would be calamitous if, through our own slovenliness, we should be deprived of the privilege of sending specimens by mail:

The increased use of the facilities of the Public Health Laboratory of the California State Board of Health by physicians of the State is commendable. The large number of specimens examined is indicative that the laboratory is serving the public to the maximum of its usefulness in the control of

communicable diseases. In the submitting of these specimens, certain rules and regulations of the United States postal authorities must be conformed with, and only those specimens in regular mailing outfits furnished by the California State Board of Health should be sent through the mails. The postal regulations strictly prescribe the kind of containers which may be used in mailing bacteriologic specimens. Infractions of these rules have occurred so often lately as to make imperative that this warning be given. When one considers that specimens sent illegally are subject to seizure and investigation and subsequent prosecution of the sender by the United States Government, one sees how advisable it is that these rules be followed in their entirety. This laboratory, as a matter of convenience and aid to active co-operation, has established in drug stores in a large number of the towns in California, depositaries for the distribution of suitable mailing outfits to health officers, physicians, and veterinarians. Again, outfits will be sent to physicians on request. Mailing outfits may be obtained for forwarding sputum from suspected cases of tuberculosis, sterile swabs for use in suspected cases of diphtheria, outfits for dried blood from suspected cases of typhoid fever, smears of blood from suspected cases of malaria, blood and serum from suspected cases of syphilis, smears of pus from suspected cases of gonococcus infection, and feces from suspected cases of hookworm disease.

The California State Board of Health desires at all times to co-operate with physicians in the state, in doing the very necessary laboratory work for the correlation of clinical findings. It is almost impossible to get the best results when the specimens submitted are not in the proper containers—sometimes leaking, with resulting contamination. The danger of handling specimens, such as leaking bottles containing sputum possibly infected with the tubercle bacilli, and animals' heads, possibly infected with rabies, wrapped in single paper and mailed, is plainly evident and should be discontinued at once.

The writer has a vivid recollection of having opened a package containing a test tube, broken to pieces, with an excised portion and secretions from a bubo of a suspected plague case. There was nothing to give a clue to its contents. This material was proven "plague" on examination.

Reports of the results are sent to the senders of specimens, and when positive evidence of communicable disease is obtained, to the local health officers. The significance of the laboratory report should always be kept clearly in mind, as the purposes of such examinations are the protection, eventually, of the public at large.

The sending in of specimens must conform to the rules of the postal authorities, and hereafter, warnings will be given to physicians sending in specimens in containers that do not come up to the standards prescribed. A warning should be sufficient, but *in case of repetition of the offense, the name of the sender will be sent to the postal authorities, for their action.* It therefore behooves physicians, health officers, and veterinarians, as a duty, that they send their specimens properly.

MILITARY-MEDICAL PREPAREDNESS.

In the scheme of military preparedness and enlarging of our army, it must be urged that amplification of the medical corps is of the greatest importance. The Southern Medical Association at a recent meeting passed resolutions memorializing Congress on this matter, and the President of the American Medical Association, Dr. Rodman, has urgently requested that all physicians advise their Senators and Congressmen upon this point. It can be admitted that even in these stirring times of peace, our army is under the handicap—amongst others—of a too small medical corps, and should any trouble arise it would be acutely felt. Now is the time, with the enlargement of our military, to see to it that the army is supplied with a medical corps of sufficient size to properly care for the men. Your personal assistance in this matter is requested.

TEST OR ASTROLOGY?

There are few of us, no doubt, who at some period of our lives have not been interested in occult phenomena, and many of us still love to see blindfolded ladies and trained horses do mind-reading "stunts," though perhaps with our superior training we feel that things are not really just what they seem. Laboratory work to the average untrained practitioner is an occult aid to diagnosis, offering him a short but absolutely reliable means of deciding the presence or absence of a specific disease; "yes" or "no" without argument frequently even in cases where prolonged clinical study is of no avail. Certain laboratories, desiring to maintain their self-styled top-notch positions in the community, immediately take up every new test which seems to offer the slightest aid to the diagnostician, without waiting for its thorough trial at the hands of trained workers. And there are many practitioners, no doubt, who, rather than give patients a thorough clinical investigation, fall for this sort of thing. It is unfortunate that the laboratory men themselves should encourage this. It means more work for them, to be sure.

One of the latest tests exploited is the Abderhalden reaction. Widely heralded at first, this test is still advertised at \$5.00 per, particularly in the diagnosis of cancer and pregnancy. Let us quickly avail ourselves of this opportunity before these offers are withdrawn, or perhaps before reading the following from a most interesting article recently published on the Present Status of the Abderhalden Reaction by J. Bronfenbrenner, Ph. D.; *Journal of Laboratory and Clinical Medicine*:

"If in performing the test one follows all the precautions prescribed for this method, if one, in addition, is able to control every step as the necessity arises, even beyond the prescribed procedure, one may obtain very satisfactory results in a number of cases. . . . The test still remains comparatively useful in special cases when the results obtained may justify the expenditure of time of a highly trained worker, but even there, I feel, though often correct, the results should be taken with reserve. As it stands as the present, the Ab-

derhalden reaction has only a scientific interest . . . its main value is in the fact that it stimulated the studying of the fermentative activities of the body fluids and especially of the blood."

N. B.—It will be noticed that this is a somewhat different conclusion than that published on page 28 of last month's JOURNAL. We would suggest that everyone read the original article quoted.

WHAT WE SHOULD KNOW.

The following very important statement of a number of essential things which we should know, and not forget, in connection with the Industrial Accident Law, is very gladly printed. Also, on another page, will be found an abstract of the Report of the Commission which contains much matter of interest. Very soon we shall have sickness insurance also, and we might as well get used to learning about these things first as last:

Some Things About Their Obligations Under the Compensation Act, Which Physicians in the State Should Know.

1. Every industrial injury, accident or occupational disease must be reported when brought to the attention of physicians or surgeons.

2. Failure to make such report is punishable by a fine of not less than ten nor more than one hundred dollars.

3. If the injury is serious enough to require skilled attention, the case must be reported within ten days, irrespective of the lack of money considerations for service rendered the injured. This applies particularly to physicians who operate hospitals, sometime of an emergency nature, in connection with large plants and when their services are secured by contract or monthly stipends or otherwise.

4. The question of the loss of time due to the injury, or whether the injured's employer is exempted from the compensation provisions of the Act, or whether the employer carries insurance coverage, does not affect the obligations of the attending physician or surgeon to make report to the Industrial Accident Commission at 525 Market Street, San Francisco.

5. Physicians contracting or otherwise selling their services to Insurance Companies privately owned, or to the State Compensation Insurance Fund (which Fund has offices in the Underwood Building at 525 Market Street, San Francisco), must make reports on blanks furnished them by the Industrial Accident Commission, notwithstanding the fact that they may have been required to make similar reports to such insurance companies. Care should be exercised in forwarding these reports to the proper companies and the Commission or else action may be delayed indefinitely.

6. Only one report should be filed with the Industrial Accident Commission unless the injury results in loss of life or leaves permanent physical impairment. The State Compensation Insurance Fund and other Insurance Companies may require as many reports as are necessary for their purposes.

7. Industrial injuries to employees engaged in

farming and domestic labor must be reported in like manner of the unexempted classes of employment.

8. Injuries to hospital employees whose injuries arise out of or during their course of employment, although they may be serving without definite compensation, must also be reported.

9. *The term compensation includes the money paid for medical services, and under the provision of section (16), sub-section (1), physicians may be denied payment for their services unless bills are presented to the proper employer or his insurance carrier, and satisfactory settlement reached before the Statute of Limitations becomes operative, which it does in six months from date of injury.*

10. Where physicians encounter difficulty in settlements for their services, recourse to the judgment of the Industrial Accident Commission may be had by addressing their complaints in detail to the Secretary of the Commission, Mr. H. L. White.

11. If medical advice is desired or controversies of a medical nature arise, such communications, if directed to the attention of the Commission's Medical Director, Dr. Morton R. Gibbons, will receive prompt and courteous attention.

12. When a physician is interested in a case pending in the claims department of the Commission, and X-ray plates or additional data is sent the Commission, all details should accompany such plates or data so that identification may be easy. Such data or plates should be marked for the attention of the Medical Director or the manager of the Compensation Department, Mr. F. B. Lord.

13. Under no circumstances should informal data or plates be submitted without sufficient identification marks, and instructions regarding their disposition.

14. Physicians rendering services to employers who carry insurance with the State Fund should look either to the employer or to the State Compensation Insurance Fund for settlements for services, and not to the Industrial Accident Commission, unless a controversy arises over such claim.

Supplies of report blanks and copies of the law will be furnished upon application, and relevant inquiries in relation to the operations of the law will be given cheerful attention by the Commission.

FRESNO HOTELS

APRIL 18, 19, 20, 1916

Make Your Reservations Now!

HOTEL FRESNO
THE SEQUOIA
THE HUGHES HOTEL

Rates: All European plan, from \$1.50 up.

Or, write the Secretary of the Local Committee of Arrangements, Dr. Kenneth J. Staniford, Fresno.

Do not delay; there will be a big crowd.

ORIGINAL ARTICLES

TRAUMATISM OF THE BRAIN.*

By ALANSON WEEKS, M. D., San Francisco.

In discussing traumatism of the brain, it would be well to keep in mind a few simple facts relating to the anatomy, physiology and pathology of this organ. It is made up of the most delicate tissue, and is most richly supplied with blood. Because of the softness of the tissue, the blood vessels themselves have very little support. It is surrounded by an inelastic membrane, which is again surrounded by bone. When it is injured, it has very little opportunity to give in any direction for the relief of the following edema, except only the removing from the brain cavity the cerebrospinal fluid and the blood in the blood vessels. When one remembers the vital centers protected so well by the skull but so feebly by the tissue of the brain, the symptoms seen in cases of injury are readily understood, but with equal difficulty interpreted.

It is well known that contusion of tissue results in edema, and if great enough to break the blood vessels, in hemorrhage. In the case of the ordinary tissues of the body, which are elastic and can cause very little trouble by their swelling, the result is not serious. In the case of the brain, things are quite different. The contusion of brain tissue, which may not even lead to a well-marked hemorrhage, may result in edema. This edema, because of the lack of support for the soft-walled veins, will infringe upon the outlet of the circulation to a part or parts, while the harder walled arteries are still freely open, resulting in greater venous congestion, and finally, on account of the pressure thus exerted, will reach a time when the arteries themselves will be shut off and an anemia of the brain tissue nearby result. This condition of affairs will be found in all grades in the same brain should the injury be great enough and will account for the errors of judgment when interpreting symptoms.

If a crate of eggs be dropped or thrown upon a hard surface, and the crate then opened, one will discover at times that an egg will be broken in the midst of a number of uninjured eggs, many on the side of the crate which struck the hard surface, and a number on the side of the crate opposite, with here and there an egg broken throughout; which, roughly, fairly illustrates the breaks in brain tissue resulting from trauma.

I have never seen death directly result from a fracture of the vault of the skull, provided the injury was made with a more or less pointed instrument or a rapidly moving object with a glancing blow, where the force was exerted upon a small area of the brain, causing trauma of small moment at the base. A skull thrown against a pavement by an automobile moving rapidly, for instance, because of the slight giving of the bone, may result in no fracture which can be demonstrated; but if the force was sufficient, at operation or autopsy I have seen brains filled with many separate hemorrhages, others with enormous hemor-

rhages, some at the base, some over the silent area of the frontal lobes, some coming from a tear of the middle meningeal, others from a rent in the large sinuses, or from connecting veins, remote from the scene of operation. I have learned to call these brains with such numerous tears of tissue, "addled," because it does seem at times as though the soft brain tissue had been shaken apart everywhere. The symptoms and the time of their development depend entirely upon the extent of the trauma, from simple concussion, to the wild, hopeless appearing symptoms of one of these "addled" brains.

It must be kept in mind that our whole object in the treatment of brain injuries is to prevent the extension of pressure to the vital centers in the bulb.

It has become almost an axiom at the Central Emergency Hospital that, "in case of a so-called fracture of the base of the skull, which requires immediate operation because of the well-marked symptoms of compression, operation is useless, and the case is hopeless." This is because the trauma was so severe that the bulb tissue was torn, and not because the vital centers were pressed upon by extension of swelling from a distant injury.

The extradural hemorrhage usually resulting from a tear in the middle meningeal artery, gives the clearest picture: symptoms of concussion with recovery therefrom and a conscious interval, followed by coma.

Hemorrhages under the dura which, of course, are the commonest, if they happen to be localized, at first give the picture of pressure, with its early paralysis, followed by venous congestion with its irritating symptoms, and later signs of anemia of brain tissue, can be relieved by operation before brain tissue is destroyed and before the pressure has been exerted long enough by the hemorrhage to extend the edema to the vital centers in the bulb, when as a rule operation is too late. Hemorrhages in the brain tissue and in the ventricles are usually a result of the "addled" brain type, and no operation seems of value.

The main points to be kept in mind are these: The usual signs of compression spoken of in most of the books on surgery, such as slow pulse, changes in the pupils and retina, alterations in the breathing and temperature, are all symptoms of trouble in the bulb.

The vital centers are involved and things have gone quite far enough, if not too far. If one remembers that cerebral anemia stimulates the vasomotor centers, and arterial blood pressure rises, while the same anemia causes a paralysis of the respiratory center and respiration will be involved; then, if one waits for the much lauded sign of high blood pressure before operating, the chances are that tissue has been destroyed, and we are too late. I feel certain that operation has not been done early enough when indicated.

Low blood pressure has been the rule in most instances, in my experience, in the type of injury which seems to demand immediate operation. This is probably due to the fact that other vital centers were badly injured at the time of the accident,

* Read before the San Francisco County Medical Society, September 28, 1915.

and the vasomotor center escaped. Blair reports that 63 patients not operated upon who lived more than two hours, 35% survived; of the 42 patients operated upon, 57% survived. In one-half of the successful cases, but in only one-third of the fatal case, the operation had been done within two hours. Of the patients on whom the dura was opened within two hours, 70% survived. Of those not operated upon who survived 24 hours, 58% ultimately recovered; of those operated upon who survived 24 hours, 75% recovered. This shows that the time of operation is important.

Blair thinks the most constant single sign of severe brain injury is disturbance of the pupillary reflex. Of patients giving this sign in the series without operation, 27% recovered; with operation, 57% recovered. I have seen reacting operation in some of the rapidly fatal cases, and abnormal pupils in some who have recovered.

Bleeding from the ears is spoken of as direct evidence of fracture of the skull. It, of course, is to be taken in connection with other symptoms in judging the extent of injury. The final outcome of such injury to the middle ear and drum is best known to ear specialists. The eye specialist will be called on at times to see these patients, and if the case has been left long enough, there will be seen changes in the eye-ground, such as choked disc and small hemorrhages of the retina.

It is well to remember that the operation of decompression, if proper care is used that no blood is lost unnecessarily as the patient is already in shock, can of itself do no harm. The operation will certainly prevent the spread of edema to the vital centers from a disturbed part, and will often save the lives of these patients. It certainly can in no way endanger them.

It might be of interest to report two types of cases.

One patient, J. B., came into the Central Emergency Hospital with a history of having been struck on the head two days before. He was conscious, but said he felt dizzy. His pulse at the time was 80, his blood-pressure 120, the temperature normal, the right pupil somewhat larger than the left, both reacting to light. He was kept for observation, and in the course of some hours became unconscious. His pulse dropped to 60 and he developed a left hemiplegia, complete. I did a right, subtemporal decompression, encountering an enormous extradural clot, so large that one would think it impossible that the brain could be so compressed and not destroyed. This was removed, and in three days the patient was able to walk. This is one of the cases of slow clot formation where the bulb was not injured.

Another case, Mr. A. B., was brought to the Central Emergency Hospital with a history of having one hour before been struck by a "jitney" on Market street. He came in with a blood-pressure of 140, a pulse of 150, which in the course of one hour dropped to 120, was totally unconscious, and the pupils dilated but reacting to light. He was in complete coma on admission and breathing was markedly disturbed. He became very restless, and was one of the cases which seem hopeless from the start. A double decompression operation was done upon him two days afterward which, of course, was too late. The cerebrospinal fluid was clear, and small hemorrhages could be seen in the pia. The patient died, and Dr. Schaller has very kindly brought the brain for you to see. It will be very evident to you

why any operation was useless, and will demonstrate to you after you see the enormous number of hemorrhages throughout this brain, why he appeared hopeless at once. The autopsy showed absolutely no fracture of the skull.

Discussion.

Dr. W. F. Schaller: I wish to show you the hardened brain of one of the cases, Mr. A. B., whose symptomatology has just been detailed by Dr. Weeks. The symptoms left little doubt in our minds that there was a fracture at the base, but after death, which occurred three days after the injury, no fracture was found at autopsy although the periosteum was scraped carefully from the base of the skull and the foramina carefully explored. The fact that there were extensive hemorrhages in the tissues about the orbit and in the conjunctiva on the right side made the absence of any fracture noteworthy. When the brain was removed, small subpial hemorrhages were seen in the hemispheres but the brain was not lacerated, and did not show any marks of violence. The interior of the brain, however, on section after hardening in 10% formalin, showed a remarkable picture. In the anterior portion of both frontal lobes, in the region adjacent to the knee of the corpus callosum, and in the callosal fibres themselves were seen extensive minute hemorrhages which in some areas caused a disorganization of brain tissue. There was no evidence of edema of the brain at autopsy nor could any other pathological condition be found on careful macroscopical serial section. The medulla and midbrain appeared quite normal. Dr. E. S. May of Oakland is making a further histological study of the cerebral cortex.

Dr. Cullen F. Welty: I wish to report some thirty-two cases of fracture of the base of the skull. The diagnosis of fracture of the base of the skull was made by lessened bone conduction on one side or the other, in comparison with the opposite side. Some few years since, it was demonstrated beyond a question of doubt that concussion of the labyrinth will sometimes produce a lessened bone conduction. So, the inference is that they were not all fractures of the base. Ten of these cases were followed by acute purulent otitis media. Of these eight cases had partial or complete facial paralysis. As the suppuration subsided, the facial paralysis cleared. Four cases demanded mastoid operations. One case had sinus thrombosis. I wish to make a statement that I consider very important, and that is, in a given case of fracture of the base followed by acute purulent otitis media, operation should be done on the slightest indication of pus retention (or rather acute mastoiditis with pain), because of the possible communications with the brain cavity itself. Furthermore, I wish to say that a fracture of the base in an individual who has a chronic suppurative otitis media should be operated at once for obvious reasons. I am not familiar with the class of cases Dr. Weeks speaks of. I never see them. My reported cases were from the City and County Hospital, following the great fire. Two cases were private. All the cases that I treated recovered.

Dr. Emmet Rixford: I regret that I did not hear all of Dr. Weeks' paper, for I have gathered from its latter part the probably erroneous impression that Dr. Weeks considered the determination of indication for operation in fracture of the base of the skull a simple matter. With this I can not at all agree for it is contrary to the accepted teaching of those of the greatest experience in this field. As for me, with the growth of my personal experience which now has become considerable, I look with greater and greater apprehension upon the cases of fracture of the skull with traumatic injury of the brain which come to me.

I have had some very hard knocks in this matter. I have operated and been proud to have found a linear fracture of the skull and had the patient die I fear as much from my operation as from

the original injury, and I have had the opposite experience of having advised against operation where autopsy subsequently showed conditions that might have been alleviated by a timely operation.

Not every case of fracture of the skull requires operation, especially fractures of the base. In fact a large proportion of the cases as we meet them have conditions of contusion or laceration of the brain substance for which little or nothing can be done in any operation.

It must be remembered that operation in these cases is not an innocent procedure, it can do many things which are harmful and but few that are helpful. It can sometimes relieve pressure when abnormal pressure exists and that is about all if we except such obvious things as removal of foreign bodies, and of blood clots, elevation of depressed fragments of bone and ligation of bleeding arteries.

From the standpoint of fractures, those of the skull are not of very great interest. The mere fact that a person has a linear fracture of the skull does not at all mean that an operation must be done. It seems to me that the indications for operations must be based upon a clear conception of the particular case in question, as to whether there is an intracranial lesion which is likely to be benefited by operation.

Bleeding from the ear, has been mentioned as a particularly valuable symptom. I do not think that it is always necessary to call in a specialist with a tuning fork. I think the man who gives first aid can use an otoscope and see whether the bleeding comes from a ruptured drum or whether it is due to laceration of the soft tissues of the external meatus and due to traction on the external ear. In the absence of rupture of the drumhead, we all know how frequently hemorrhage takes place in the middle ear and pours into the pharynx, the first symptom of which may be vomiting, particularly in children. One skilled in the use of the otoscope can tell from the appearance of the drumhead whether there is blood behind it.

I do not feel, Mr. President, that I can here enter into any intimate discussion of traumatic injuries of the brain; it is too formidable a subject. I think the best I can do is to reiterate the statement I first made—that it is not a simple problem; that much harm can be done by injudicious operating; that it requires the best that is in a man, the best experience, the best knowledge, acumen and courage, to determine his course of action in these cases.

Dr. H. C. Naffziger: I am especially interested in Dr. Weeks' paper. The most noteworthy characteristic of the specimen shown is the hemorrhage in the frontal lobe. The symptomatology of frontal lobe injuries, as described by Phelps, comes at once to mind. This patient had the wild delirium associated with such injury. One particular point to be remembered in brain injuries is the great frequency of contusions and lacerations of the under surface of the frontal, and in the tips of the temporal lobes. The area uncovered by subtemporal decompression is the one we most often wish to explore, in addition to securing relief of pressure and drainage. I feel very much as Dr. Rixford does about the complexity of these brain injuries and believe we confuse ourselves by loose terminology. We talk of fractured skulls and their symptoms and include everything, mixing in symptoms of bone injury with symptoms of brain contusion, laceration and compression. Any one may occur alone. Usually the mere presence of a bone fissure is of no consequence in the absence of cerebral injury. For teaching purposes we have been accustomed to classify, into three types, cases needing surgical treatment: First, the group with depression fractures, including punctured wounds. Second, that group showing symptoms and signs of a localized brain involvement, most often a hemiparesis of varying depths. These may appear early, but most often after hours or days and associated with more or less marked symptoms

of intracranial tension. This is the group with intra and extra dural hemorrhages. Third, those which have simply general symptoms of acute cerebral compression. These are the hardest to interpret. I believe the interpretation of intracranial pressure early, after severe head trauma, to be one of the difficult problems in the diagnosis of brain surgery.

Dr. Stanley Stillman: I suppose the object in bringing up this subject before the Ear, Nose and Throat Section is to bring out points in these cases which are of interest to the ear, nose and throat specialists. There has been some discussion lately on the subject Dr. Welty referred to, in the matter of doing mastoid operations in all cases of fracture of the base, in which hemorrhage from the ear took place. I have an idea that some proposition of that kind was in the minds of those who suggested this paper instead of the subject of fractures of the skull in general, most of which do not concern the nose and throat men. So far as Dr. Welty's statement is concerned I would say that my own experience has mostly been with those cases in which the patient is in no condition to tell whether he has bone conduction or not. There are sufficient symptoms of brain injury or pressure to make the diagnosis and the patient is usually unconscious.

In suspected cases the absence of bone conduction on one side might be a symptom of value should the subsequent developments call for operation.

The mere fact that there is a fissure of the skull is not sufficient reason for doing a mastoid operation or any other operation.

I have seen a number of cases of fissure of the base of the skull without depression, accompanied by symptoms of profound laceration or disintegration of the brain in the vicinity of the fracture, or in a remote part of the brain, but there was nothing that would lead me to suspect that the condition would be improved by operation, nor in the autopsies was there anything to indicate that improvement would have resulted.

In the case of fractured skull with bleeding from the ear with or without escape of cerebrospinal fluid, I certainly would not subject the patient to any operation, except there were other indications. Compression from a blood clot, coming on as Dr. Weeks has stated, is a proper indication and there are others, but unless there were known to be previous mastoid disease or suppurative otitis media I would oppose opening the mastoid.

I think Dr. Weeks spoke of 70 per cent. recoveries after operation. Cases of fracture of the base of the skull with bleeding from the ear, etc., which recovered consciousness within a few hours and afterward showed no sign of pressure, would have recovered anyway I believe and would have been more apt to recover without operation.

My own position in these cases has been against operation unless some definite indication for operation was present.

Dr. H. B. Graham: I think the teaching heretofore has been about as Dr. Stillman has outlined: that is, if you have a reasonably clean ear, and a fracture through the middle ear or labyrinth, it is better surgery to leave that ear alone than to open the antrum, remove the mastoid cells and make drainage.

We take it for granted that the middle ear is an infected area. It has the same bacterial flora as the mouth, and some men claim that whether a suppurative process is going on in the middle ear or not makes no difference—that all of these cases should be treated as a fracture through an infected area and that this should be drained.

Some work along these lines has been done recently in Germany in the ear clinics, and a large number of cases have been operated, regardless of the condition of the patient, where there is a fracture on one side of the head involving the

ear. A recent article reported 125 cases in which the percentage of recoveries was far greater than in years past. That this is good surgery I think has not been proved as yet. More work has to be done along the line of operating these doubtful cases before it will be proved whether it is necessary to look upon the middle ear as an infected area. My own experience has been very limited—only three cases of non-suppurating ears, all of them were left alone and all recovered. It is needless to say why I left them alone.

Dr. Stillman: The principal point seems to be whether these patients subsequently develop meningitis. I cannot recall, in a number of cases, any that died from meningitis after recovery of consciousness. It has not figured to any extent as the cause of death in my individual list, and I would like to ask if the experience of others has been that meningitis develops as often as we have been taught to fear that it will—so often as to justify a mastoid operation in all cases as a prophylactic measure.

Dr. K. Pischel: I need hardly point out that in these cases an ophthalmoscopic examination should be made. A slight swelling of the disk, if not a choked disk, will let us know whether we have to deal with pressure.

Dr. Weeks, closing discussion: I regret that Dr. Rixford did not come soon enough to find out that I do not think these cases are simple!

As to bleeding from the ear, it may surprise you to know that we have a great number of so-called fractures of the skull with bleeding from the ear, who go home well. I have even seen cases with cerebrospinal fluid coming from the ear who without interference recovered.

The reason I wrote this paper so filled with generalities was that it would take a week of writing to cover the ground explicitly. What I wanted to do was to call attention to the fact that when we call you down to see your patients at the Emergency Hospital, whenever we can find out to whom the patient belongs, the first thing nine of ten doctors do is to begin to paw the head over to find out whether the skull is cracked; and I want to emphasize the fact that it doesn't make a bit of difference whether it is cracked or not. The doctors should keep their minds on fractured brain tissue, not on skulls. The cases that have received trauma to the brain run something over 200 a year in the Emergency Hospitals, and that does not include simple concussion. I believe, as Phelps has brought out, that concussion is a definite injury to brain tissue.

The thing I wanted to bring before this section was that the nose, ear, and eye men are of absolutely no use on earth to the general surgeon when he has an acute trauma of the brain to deal with. We are interested in knowing in time as to the injury to the bulb, and it happens repeatedly that the ear and naso-pharynx will pour blood and they will vomit plenty of old blood which has come from a fracture somewhere in the naso-pharynx or middle ear, and a number of these cases recover. The point is whether the bulb is involved, and if we have evidence that it is being pressed upon, something must be done. For instance, you may have a patient with the usual slow pulse and high blood-pressure of compression, with at the same time a breathing that is wicked, Cheyne-Stokes very marked. It seems reasonable to think that the breathing center itself could have been involved, that the others are beginning to be involved, and that our only hope is to try in some way to relieve the pressure on these tissues. I have operated on some forty cases where on opening the dura the brain poured through the opening. At autopsy these brains were found filled with hemorrhages. It seems to me that the one hope is to relieve that pressure.

The changes in the eye grounds, choked disk and hemorrhages, are certainly late symptoms of

pressure. Things have gone a great distance then. To try whether they can hear the tuning fork is ridiculous! If a man has gone along far enough to have ear infection, that is in the hands of the ear specialist and he ought to relieve it.

Dr. Graham: Do many of these cases that have concussion of the brain die of meningitis?

Dr. Weeks: Death from meningitis is very rare in these cases.

ANOCI-ASSOCIATION: A PLEA FOR THE SURGICAL PATIENT.*

By A. B. COOKE, A. M., M. D.,

Attending Surgeon L. A. County Hospital.

It is not my purpose on this occasion to discuss the theories upon which anoci-association is based, attractive and interesting though they are, nor to trespass upon your time with an unnecessary description of technic; but with the patient and the patient's welfare for our themes to show you, if I may, the practical advantages which the method has to offer.

The biggest words in the vocabulary of the conscientious surgeon, without a doubt, are the safety and comfort of his patients. Dexterity is a gift which all may not possess. Speed in operating may be acquired by cultivation and is desirable enough provided it does not involve a greater loss than gain. But the thing of supreme importance is that no patient shall be exposed to any danger possible to be avoided.

It will not be disputed that shock constitutes the greatest danger of modern surgery. Sepsis and hemorrhage to which so large a per cent. of surgical mortality was formerly due, no longer give us concern. The great question remaining to-day, with the surgeon in advising operation as with the patient in considering it, is with what degree of danger will the proposed work be attended? The average patient does not know this danger as shock; the surgeon, even, may call it or think of it by some other name; but properly understood, shock is what both dread.

I have been surprised more than once recently to hear surgeons of wide experience declare that they do not fear shock,—that they never see it in their work. Such statements, manifestly, can only be based upon an inadequate conception of what the term really means. I do not hesitate to express the positive opinion that some degree of shock attends the performance of every major surgical operation, and this opinion is supported both by weight of authority and by the accepted teachings as to the true nature of the condition. It is true that extreme shock, as marked by collapse on the table and the necessity of resorting to heroic measures to sustain or restore life, is comparatively rarely seen. But how often, I would ask, does the careful surgeon perform major operations of an hour's duration that he does not feel it necessary to institute such post-operative treatment as the application of heat externally, hypodermic medication, the Murphy drip, etc.? Why does he adopt these measures, practically as a routine, in these cases? If the patient's condition is as it should

* Read before the Los Angeles County Medical Society, October 21, 1915.

be, why attempt to promote or hasten reaction? Reaction from *what*?

Let us be honest with ourselves, gentlemen. Call it by whatever name we will, explain the cause and method of its production as we please, we do have some manifestation of surgical shock following major operations virtually without exception.

Then, too, we must remember that there is such a thing as delayed shock which develops occasionally hours after the patient is thought to be entirely out of danger. And again, the neurologists have taught us that the effects of a surgical operation upon the nervous system can never be foretold; that certain patients recover only after prolonged periods of semi-invalidism, and that some never fully recover.

May we not, therefore, justly conclude that there is a definite element of danger attending all major surgery from which it would be highly desirable to protect our patients? Why not face the facts of our daily experience with open minds? I do not care particularly whether this danger is called "shock" or not. But I do earnestly protest against the tendency to evade the issue by the assumption of an attitude of complacent indifference or supercilious skepticism upon the subject.

Another matter about which there seems to be considerable difference of opinion is the question of post-operative pain. One man disposes of the question with a shrug of the shoulders and the flippant assertion that his patients suffer no pain after operation. The majority, however, frankly admit that they are accustomed to tide their patients over the first few days with enough opiate to keep them comfortable. In the former case the helpless patient's outraged sensory apparatus receives neither attention nor recognition; in a few hours or days the pain will subside and the patient will ultimately forget. In the latter class of cases—and I am glad to say that this class represents the rule to which the former class is merely an exception—the claims of humanity do receive attention, and the patient is given the relief from physical suffering to which he is entitled.

But the proposition is not open to debate that surgical patients would be far better off without opiates, if post-operative pain could be controlled or prevented by other means. The effect of these agents is uniformly bad; they check the secretions, favor gaseous accumulation, lower vital resistance, and retard convalescence. Heretofore we have employed them only because, as compared with post-operative discomfort, they have seemed to be the lesser of the two evils. Beneficent though they appear at the time, in the end we find that in using them we have often merely added insult to injury.

Upon these two considerations, the safety and comfort of the surgical patient, anoci-association makes its appeal. Since I had the honor of reading a paper on this subject before you some eighteen months ago I have employed the method in approximately one hundred additional cases.

The list includes only major operations without selection of cases. The operative mortality has been two per cent.—not a phenomenal record, to be sure, but one which, as I have reviewed the individual cases, I am persuaded might have been much less favorable had the method not been used.

In the light of this increased experience let me enumerate some of the many practical advantages of anoci-association from the standpoint of the patient.

1. Safety. The danger of shock is greatly reduced—in the majority of cases practically eliminated. The patient leaves the table fully conscious, pulse of good volume and only slightly if at all accelerated as compared with the initial rate, color normal, and every indication of well being. This consideration alone is more than sufficient to offset any extra trouble which the operator and his assistants may have taken.

2. Comfort. When the method is explained in advance to a patient of average intelligence his natural dread is diminished and he approaches the ordeal in a tranquil and hopeful frame of mind. Following the operation he suffers little pain, consequently opiates are seldom required, nausea and emesis are lessened both in degree and in frequency of occurrence, and the period of convalescence is entered upon with the moral tone unimpaired.

3. Gentleness of manipulation. I regard as one of the distinct and most important advantages of this method the fact that it compels gentleness in every step of the operation. By this means all unnecessary traumatism is avoided, the several organs of elimination are protected from undue burden, and wound repair is favored and hastened. The rough operator, however skilful he may be, cannot expect to employ the method successfully.

4. Gas pains. This most distressing and familiar sequel of abdominal operations is greatly modified, in many cases entirely overcome. This is explained by the scrupulous care and gentleness the method exacts in handling the organs and tissues, and by the avoidance of post-operative opiates it renders possible. If the accumulation of gas is anticipated by securing early evacuation in these cases, this very disagreeable feature will be further provided against.

5. The method broadens the field of surgery in that it makes it possible to extend the benefit of operation to certain cases and conditions which would otherwise involve too great danger. It is no small thing to be able to assure a weakened and suffering patient that he may have the chance to which he is entitled without assuming undue risk from the operation itself.

6. Convalescence is more promptly established, the period of disability appreciably shortened, and the return of normal health much more speedy and certain. Though well aware that I was violating tradition in doing so, I have permitted patients to leave the hospital in twelve days after the most formidable abdominal operations, without occasion for regret in a single instance. In the past

twelve months I have seldom kept any patient in the hospital longer than two weeks.

7. Not the least noteworthy of the advantages of anoci-association is that it provides an effective means whereby surgery may be in large measure relieved of its harshness. From the patient's viewpoint, at least, this is a consideration of tremendous importance. It is to be genuinely deplored that, in the natural course of events, the surgeon almost inevitably becomes more or less callous to the discomfort and distress of his patients. An operation, however slight in itself, is always a momentous affair to the unhappy subject, and he has the right to expect sympathy and to demand that he be given every possible protection from discomfort as well as from danger. The anoci technic, properly applied, affords this protection to an extent heretofore unknown. A patient who has experienced the benefits of this method invariably becomes its grateful champion.

Though the chief purpose of this paper is to emphasize the practical value of anoci-association to the patient, I may be permitted a few special observations with reference to the method itself. Success with the method requires scrupulous attention to each of the several principles upon which it is based. Of these the one most often responsible for unsatisfactory results is the local anesthesia. To accomplish its purpose this must be as complete as though no general anesthetic were to be used. This degree of thoroughness presupposes a skill on the part of the operator which is usually acquired only by much experience. The beginner in the use of local anesthesia cannot hope for perfect results in his first case, nor indeed in his first half dozen cases.

Gentleness in handling all tissues I again call attention to as absolutely essential, otherwise reflex muscular contraction, embarrassed respiration, vasomotor disturbance, etc., will arise to frustrate the whole scheme. Aside from these two points for special caution, there is nothing about the method to stamp it as complicated or to render undertaking it a matter of serious misgiving to any well trained surgeon.

The foregoing represents deliberate conclusions based on my own personal experience in the use of anoci-association. The hopes I entertained when the method was first announced have been fully realized, though candor compels the admission that the results in my earliest cases were not entirely satisfactory. This, I think, must always be so, for the personal equation of the surgeon and the idiosyncrasies of patients must ever remain important factors to be reckoned with in the adoption of a new technic or plan of management.

Current literature has contained much upon the subject in the past two years, some of it favorable, some merely critical, some openly antagonistic. With this you are all familiar. Let me conclude by quoting the opinion of several of our well-known California confreres who have been using the method long enough to justify definite conclusions as to its value. A few weeks ago I wrote to four friends asking them for a brief expression

as to the practical value of anoci-association based on their personal experiences. Following are the replies:

Dr. Wallace J. Terry, San Francisco, Professor of Surgery in the University of California, says: "In reply to your letter of September 7th in regard to anoci-association, I am very glad to state that it has been very satisfactory to me after an extended use of it covering a period of over three years. I have used it in all kinds of operations and employ it in every case where it is possible to do so. I believe that the factors of safety and comfort for the patient far outweigh the additional time which may be required and any inconvenience to which the surgeon may be put. The principal difficulty is in obtaining an anesthetist who can properly give nitrous oxide and oxygen. "I am very glad to know that you continue enthusiastic in its use."

Dr. Thomas O. Burger, San Diego, writes: "In reply to your request for my present views on anoci-association, I am very glad to state that I am carrying it out fully in my work and am more and more convinced of its benefit. It is an improved process, carrying with it less fear, a more safe and pleasant anesthetic, absence of prolonged unconsciousness and vomiting in practically all cases. It is marked by freedom of sequelae as related to the kidneys, lungs, blood and nervous system, meaning less morbidity and less mortality."

Dr. Charles D. Lockwood, Pasadena, says: "Anoci-association, viewed from the standpoint of the patient, is of inestimable value. The relaxation and freedom from pain for the first three days after abdominal operations abrogate at least fifty per cent. of the complications and discomfort suffered by these patients."

Dr. Joseph K. Swindt, Pomona, replied: "Replying to your inquiry, I am pleased to say that, since visiting Dr. Crile's clinic four years ago, I have used anoci-association in the majority of my operations with constantly increasing satisfaction."

"I appreciate the method, both from the standpoint of my own comfort during the operation and of my patient's comfort after the operation. Especially in all abdominal work, the peripheral block of the reflexes gives the surgeon a placid field in which he may deliberately carry out any procedure with a minimum of traumatism from linen and instruments and under a greatly lessened quantity of anesthetic."

"Any one who will employ the technic with the same thoroughness as if intending to operate under local anesthesia will surely find rich reward for his efforts in the freedom from pain and shock experienced by his patient."

"I have never seen the slightest objectionable result from the use of the method."

Testimonials like the above could no doubt be multiplied indefinitely if I knew of all the men who are using the method. But those given are sufficient, certainly, to corroborate the claims I have advanced and of the soundness of which I am convinced.

The relation between patient and surgeon is one of peculiar dependence and responsibility. On the part of the patient it is already ideal as manifested in the confidence he displays in entrusting his life to the surgeon of his choice. On the part of the surgeon the ideal is not even approached unless he adopts the familiar slogan, "safety first," with the addition, comfort second, as representing his unswerving attitude toward the patient.

LEUKOPENIA. ITS RELATION TO ORCHITIS. CASE REPORT.

By JOSEPH H. CATTON, M. D., San Francisco.

This communication suggests that hematogenous infection of the testes is practically always due to organisms which tend to produce a relative or an absolute reduction in the number of polynuclear leukocytes. It considers: (a) the infectious etiology of orchitis, (b) the leukocyte pictures present in these infections, and, (c) the relation between the leukocyte picture and the liability to orchitis.

An organism may reach the testes by extension or through the blood stream. Gonorrheal orchitis results from the former method. This paper will consider the hematogenous infections.

ETIOLOGY OF ORCHITIS.

The most common and most widely recognized infectious cause of orchitis is mumps. Ballenger¹ and Ruhrh² call it the chief cause, numerous others³ mention it, and Dukes,⁴ Higgins⁵ and others⁶ have reported specific cases. The orchitis, although it usually follows the parotitis, may precede⁷ or replace⁸ it.

Orchitis may complicate typhoid.⁹ It is relatively rare, McCrae¹⁰ finding it in only 0.27% of his cases. Beardsley¹¹ reports four cases and reviews the literature to 1908, finding a total of 102 cases reported. It tends to come late in the disease¹⁰ or in convalescence¹².

Craig¹³ finds orchitis a very common complication of malaria but usually obtains a gonorrheal history and doubts whether true malarial orchitis occurs. Thayer¹⁴ admits its occurrence but thinks it the result of mixed infection. It is reported by many¹⁵, however, as a complication peculiar to malaria.

It is well established that orchitis may complicate smallpox.¹⁶ Rogers¹⁷ found it in 48 of 55 smallpox cadavers. Spermatogenesis stops, degenerations similar to those of typhoid take place and pustules may develop.¹⁸

Walker³ and Osler¹⁹ speak of orchitis as complicating influenza. It has been observed infrequently in scarlet fever.²⁰ It is a rare complication of tonsillar fever.²¹

Virulent pneumonias have been accompanied by orchitis.²² This complication is exceedingly rare, Musser and Norris²³ finding in only 2 cases out of 930. A case reported by Prioleau was fatal.

Orchitis has been observed in pyemia.²⁴ Quenu¹⁷ speaks of the tonsils, parotid and testes acting as depurative organs in overwhelming infections. Burnham²⁵ reports a case of Villanova's suffering from Malta fever in which an orchitis was an early feature. Boral²⁶ finds orchitis one of the complications of typhus in the present war.

An orchitis may appear and disappear quickly in filariasis according to Stiles.²⁷ Manson thinks that some cases of "malarial orchitis" are really filarial infection.

Chronic orchitis may be due to syphilis, tuberculosis or leprosy. The chronic form is seen most strikingly in syphilis²⁸ which is a common cause.²⁹

Tuberculosis is a fairly frequent etiological factor.²⁸ The testes are usually attacked second-

arily³⁰ but may be attacked primarily.³¹ Adami²⁸ makes the point that while in adults the epididymis is usually attacked first, in children before puberty the reverse is true.

Lepra may occur in the testes in the form of a granuloma leading to necrosis.²⁸ Orchitis was rarely a complication at Molokai.³²

LEUKOCYTE PICTURES.

The blood pictures in the infections just listed as causative of orchitis will now be considered showing the tendency toward reduction in the number of granular leukocytes.

Leukocytosis is absent in mumps³³ and there may be a relative mononucleosis.³⁴

It is well established that a leukocytosis is wanting in typhoid³⁵ and that in nearly all cases there is a leukopenia.³⁶ Although the latter has been called a late feature by some observers,³⁷ others³⁸ find it constant, Hultgen³⁹ saying it is present early in marked degree. Some⁴⁰ claim it is a more constant early sign than the Widal test. A relative lymphocytosis is also characteristic of typhoid,⁴¹ due to the marked decrease in the number of polymorphonuclear cells.

Malaria gives no leukocytosis,⁴² and leukopenia is practically constant.⁴³ While Stitt³⁷ finds the leukopenia characteristic of the apyrexial period and Billings of the pyrexial, Türck and others find this feature in both. The granular cells suffer most and there appears therefore a relative increase in the number of hyaline cells. There is usually an increase in the number of large mononuclear cells,⁴⁴ and they may reach as high as 35%.

There may be a polynuclear leukocytosis in smallpox, but Councilman⁴⁵ finds the number of leukocytes normal during the febrile period and that the slight leukocytosis at postulation is due to lymphocytes. Buchanan⁴⁶ says there is a diminution in the percentage of polymorphonuclear cells and a mononuclear increase, and that in the virulent and hemorrhagic cases there may be a leukopenia. Mild cases have been reported with normal or subnormal counts,⁴⁷ and many observers reporting a leukocytosis find the new cells mainly lymphocytes.⁴⁸

There is a leukopenia⁴⁹ or absence of leukocytosis⁵⁰ in uncomplicated influenza. No mention was found of an increase in lymphocytes. There is, however, a tendency toward lymphocyte increase in cases of granular cell decrease.⁵¹

Malta fever gives no leukocytosis⁵² and may give a leukopenia.⁵³

Leukocytosis has been variously reported in typhus fever, but Buchanan⁴⁶ quotes certain observers as finding no leukocytosis and sometimes a leukopenia. Ewing⁵⁰ found no increase in granular cells in 4 cases. Love⁵⁴ finds an increase in large mononuclear cells in non-fatal cases, and Gulland and Goodal⁵⁵ state that while polynuclear leukocytosis is the rule, in the late stages the lymphocytes may reach 50%.

The eosinophilia of filariasis is well known. Stiles²⁷ says a lymphocytic increase of 24% to 40% is characteristic.

No record of a leukocytosis in uncomplicated syphilis was found. Stitt³⁷ says it does not occur. A relative lymphocytosis is more or less constant in the various forms of congenital and acquired syphilis.⁵⁶

Leukopenia⁵⁷ or an absence of leukocytosis⁵¹ is the rule in tuberculosis. Cabot³³ excepts the meningeal form and Wood³³ the meningeal and serosal forms. Emerson³⁶ and Stitt³⁷ say leukopenia is especially characteristic of acute miliary tuberculosis. A relative lymphocytosis tends to be a feature, especially in acute cases⁵⁸ in children⁵¹ and in cases involving the lymphatic apparatus.⁵⁹

Most observers⁶⁰ say a leukocytosis is absent in leprosy. Currie³² says at Molokai there was generally a leukocytosis but a greater increase in the lymphocytes. Gulland and Goodal³³ also report the relative increase in lymphocytes.

Leukocytosis is the rule in scarlet fever which was mentioned above as an infrequent cause of orchitis and so it is notable that in certain forms of scarlet fever there may be observed the decrease in the number of granular cells or the increase in hyaline ones. The leukocytosis may not arrive until late,⁶¹ or if the disease is quite virulent there may be a leukopenia.⁶² With severe infection and low resistance the leukopenia which precedes leukocytosis may persist.⁵¹ Although not the rule, a lymphocytosis may occur in scarlet,⁵¹ especially late.⁶³ Türck finds, on the fifth day, a drop in the number of polynuclear cells and a rapid increase in lymphocytes and eosinophils.

Similarly, tonsillitis usually gives a leukocytosis of the polynuclear variety, but Adami,⁶⁴ Cabot⁶⁵ and Emerson³⁶ call attention to the greater increase in lymphocytes when the cervical glands are involved. It is suggested by the author that it is in just such cases that the testes would be most vulnerable. Stitt³⁷ says enlarged tonsils may give a white count of 10,000 to 15,000, 50% of the cells being lymphocytes.

Most pneumonias are accompanied by a polynuclear leukocytosis, but it may be absent in virulent cases⁶² and a fatal course may be marked by a leukopenia.⁶⁶ There may be a lymphocytosis during prolonged lysis.⁶³

Leukocytosis may be absent in very mild⁴⁰ and very severe⁶⁷ septicemia, or there may be a leukopenia.⁶⁸ It is in the virulent types that orchitis occurs.

The following case shows further the relation between leukocyte picture and testicular affection:

History. A. A., age 30, male. Enters San Francisco Hospital in June, 1915. Complaint, gastro-intestinal upsets. Has had measles, mumps, chicken pox, typhoid and malaria. Had a hard genital sore 10 years ago and three attacks of gonorrhoeal urethritis. Has used whisky to excess. For about seven years has had attacks of nausea and vomiting, sometimes of large amount of fresh blood. Noted a slightly darkened stool on occasions. Never epigastric pain or tenderness, nor symptoms of hyperchlorhydria, nor definite relation between vomiting and taking of food. Has lost 10 pounds in the last year. Is a sexual pervert.

Physical examination. The liver extends from

the 4th interspace above, to 8 cm. below the costal margin in the mid-clavicular line. Spleen felt 2 cm. below costal margin. There is a small amount of fluid in the abdominal cavity. Each testis is about half the normal size and quite hard.

Blood examinations. The red cell count ranged from 3,000,000 to 4,800,000 per cm. during two months' stay in the hospital. There were no remarkable findings in smears aside from a moderate central pallor of the red cells. The white count averaged 6,000 per ccm. and was as low as 5,000 and 4,500 on occasions. The differential count was not remarkable.

Diagnosis: Alcoholic fatty cirrhosis.

The testes are the seat of atrophy or of hypoplasia, and there is a definite increase in fibrous tissue. There is no history of a definite orchitis although there is abundant etiology for the latter. Six of the seven infections in the case give the blood pictures under consideration and during a stay of two months in the hospital leukopenia was constant.

Consult table for résumé.

	Total Whites		Granulars		Hyalines		G.—H.	+ Or-	Orchitis
	Rel.	Abs.	Rel.	Abs.	Rel.	Abs.			
Mumps	=	—	—	—	+	+	+	+	+
Typhoid ...	—	—	—	—	+	+	+	+	+
Malaria ...	—	—	—	—	+	+	+	+	+
Influenza ..	=	—	—	—	+	+	+	+	+
Malta fever	—	—	—	—	+	+	+	+	+
Typhus	+	—	—	—	+	+	+	+	+
Filariasis ..	+	—	—	—	+	+	+	+	+
Syphilis ...	=	—	—	—	+	+	+	+	+
Tuberculosis	=	—	—	—	+	+	+	+	+
Leprosy ...	—	—	—	—	+	+	+	+	+
Regular...	+	—	—	—	+	+	+	+	+
Smallpox...	—	—	—	—	+	+	+	+	+
Virulent..	—	—	—	—	+	+	+	+	+
Regular..	+	+	+	—	—	—	—	—	+
Scarlet.....	—	—	—	—	+	+	+	+	+
Virulent..	—	—	—	—	+	+	+	+	+
Regular..	+	+	+	—	—	—	—	—	+
Tonsillitis	—	—	—	—	+	+	+	+	+
with Granular Inv..	+	—	—	—	+	+	+	+	+
Regular..	+	+	+	—	—	—	—	—	+
Pneumonia..	—	—	—	—	+	+	+	+	+
Virulent..	—	—	—	—	+	+	+	+	+
Regular..	+	+	+	—	—	—	—	—	+
Septicemia..	—	—	—	—	+	+	+	+	+
Virulent..	—	—	—	—	+	+	+	+	+
The diathesis	—	—	—	—	+	+	+	+	+

Key to chart { = no change.
— decrease in number.
+ increase in number
or present.

SUMMARY.

1. Hematogenous infection of the testes may occur in mumps, typhoid, malaria, influenza, malta fever, typhus, filariasis, syphilis, tuberculosis, leprosy and smallpox; and less frequently in scarlet fever, tonsillitis, pneumonia and septicemia.

2. A reduction absolute or relative, in the number of granular leukocytes, is characteristic of the above infections excepting scarlet fever, tonsillitis, pneumonia and septicemia.

3. A reduction absolute or relative, in the number of granular leukocytes does occur under certain conditions in scarlet fever, tonsillitis, pneumonia and septicemia.

4. Even in the absence of a history of orchitis there may be a relation between testicular affection and leukopenia in the case reported.

After a careful consideration of the etiology of orchitis; a study of the leukocyte pictures in the

infections reaching the testes through the blood stream; and the observance of testicular affection in a case with a history of infections belonging almost exclusively to the group under consideration, and at the same time exhibiting a leukopenia—the suggestion is offered that there is a definite relation between testicular affection on the one hand and a disturbance in the normal relation between the number of granular to the number of hyaline leukocytes, i. e. a tendency toward decrease in the number of granular cells and increase in the number of hyaline ones.

References.

- Ballenger. Genito-urinary diseases and Syphilis. 1913, pgs. 263-264.
- Ruhräh. Mumps. Therapeutics of Internal Diseases. Forchheimer. 1913, vol. ii, pg. 166.
- Greene-Brooks. Diseases of the genito-urinary organs and the kidneys. 1912, pg. 577.
- Adami and Nicholls. Principles of Pathology. 1911, vol. ii, pg. 846.
- Walker. Genito-urinary Surgery. 1914, pg. 776.
- Dieulafoy. Text Book of Medicine. 1911, vol. ii, pg. 1706.
- Dukes. The incubation of mumps and its Orchitis. Lancet, London, 1906, vol. i, pg. 861.
- Higgins. Communication. Brit. Med. Jour. 1908, vol. i, pg. 325.
- Maidlow. Communication. Brit. Med. Jour. 1908, vol. i, pg. 988.
- Walsh. Communication. Brit. Med. Jour. 1908, vol. i, pg. 1295.
- Rebaudi. Orchitis in parotitis as cause of sterility. Abs. J. A. M. A., 1907, vols. 49, 96.
- Smith, G. G. Two cases of orchitis due to mumps treated by operation. Ref. J. A. M. A., 1912, vol. 59, pg. 970.
- Hall. The local effect of orchitis in mumps. Abs. Amer. J. Med. Sc., 1912, vol. 114, pg. 312.
- Dieulafoy. Loc. cit. 3.
- Torrey. Primary orchitis and secondary parotitis. J. A. M. A., 1911, vol. 58, pg. 742.
- Dieulafoy, loc. cit. 3; Higgins, loc. cit. 5; Maidlow, loc. cit. 6; Walsh, loc. cit. 6.
- Dieulafoy. Loc. cit. 3.
- Corner-Nitch. The immediate and remote results of high operation for varicocele. Brit. Med. Jour., 1906, vol. i, pg. 191.
- Greene-Brooks, loc. cit. 3; Ballenger, loc. cit. 1; Adami and Nicholls, loc. cit. 3.
- McCrae. Typhoid Fever. Osler. Modern Medicine, 1913, vol. i, pg. 145.
- Beardslev. Epididymitis and orchitis complicating typhoid. J. A. M. A., 1908, vol. i, pg. 1015.
- Dieulafoy. Text Book of Medicine, 1911, vol. ii, pg. 1650.
- Craig. Malarial Fevers. Osler. Modern Medicine, 1914, vol. ii, pg. 86.
- Thayer. Lectures on the Malarial Fevers. 1897, pg. 206.
- Osler. The Principles and Practice of Medicine. 1912, pg. 254.
- Walker, loc. cit. 3; Ballenger, loc. cit. 1.
- Chetwood. The Practice of Urology. 1913, pg. 307.
- Adami and Nicholls, loc. cit. 3; Walker, loc. cit. 3; Ballenger, loc. cit. 1; Greene-Brooke, loc. cit. 3.
- Quénu. Review. Prog. Med. Dec. 1909, pg. 248.
- Councilman. Smallpox. Osler. Modern Medicine, 1913, vol. i, pg. 791.
- Osler. The Principles and Practice of Medicine. 1912, pg. 118.
- Walker, loc. cit. 3; Ballenger, loc. cit. 1.
- Walker, loc. cit. 3; Ballenger, loc. cit. 1; Rebaudi, loc. cit. 6.
- Beardslev, loc. cit. 11.
- Musser and Norris. Lobar Pneumonia. Osler. Modern Medicine 1913, vol. i, pg. 264.
- Chetwood, loc. cit. 16.
- Burnham. Hemocytes and Hemie Infections. 1913, pg. 272.
- Boral. Kriegstypus. Abs. J. A. M. A., 1915, vol. —, pg. —.
- Stiles. Round Worm Infection. Osler. Modern Medicine. 1914, vol. ii, pgs. 310 et seq.
- Adami and Nicholls, loc. cit. 3.
- Chetwood, loc. cit. 16; Ballenger, loc. cit. 1; Greene-Brooks, loc. cit. 3.
- Klebs. Tuberculosis. 1909, pg. 778.
- Adami and Nicholls, loc. cit. 3.
- Greene-Brooks, loc. cit. 3; Ballenger, loc. cit. 1.
- Currie. Verbal Communication. June, 1915.
- Adami and Nicholls. Principles of Pathology. 1911, vol. ii, pg. 96.
- Cabot. Diseases of the Blood. Osler. Modern Medicine, 1915, vol. iv, 614-615.
- Wood. Chemical and Microscopical Diagnosis. 1905, pgs. 118 et seq.
- Buchanan. The Blood in Health and Disease. 1909, pgs. 155-156.
- Gulland and Goodal. The Blood. 1912, pgs. 62 et seq.
- Dieulafoy. Text-Book of Medicine. 1911, vol. ii, pgs. 1823-1824.
- Gulland and Goodal, loc. cit. 33.
- Adami and Nicholls, loc. cit. 33; Cabot, loc. cit. 33; Wood, loc. cit. 33; Buchanan, loc. cit. 33.
- Ewing. Clinical Pathology of the Blood. 1903, pgs. 303-305.
- Emerson. Clinical Diagnosis. 1911, pgs. 562-563.
- Sahli. Diagnostic Methods. 1909, pgs. 615 et seq.
- Dieulafoy, loc. cit. 31; Ewing, loc. cit. 35; Gulland and Goodal, loc. cit. 33.
- Stitt. Practical Bacteriology, Blood Work and Animal Parasitology. 1909, pg. 161 et seq.
- Gulland and Goodal, loc. cit. 33.
- Wilson. Medical Diagnosis. 1909, pg. 262.
- McCrae. Typhoid Fever. Osler. Modern Medicine. 1913, vol. i, pg. 130.
- Hultgen. The Leukocytes in the Early or Pre-Agglutinative Diagnosis of Typhoid and Paratyphoid Fevers. A. J. M. Sc., 1911, vol. 112, pg. 253.
- Burnham. Hemocytes and Hemie Infections. 1913, pg. 36 et seq.
- Hultgen, loc. cit. 39; Dieulafoy, loc. cit. 34; Sahli, loc. cit. 36; Emerson, loc. cit. 36; Buchanan, loc. cit. 33; Ewing, loc. cit. 35; Gulland and Goodal, loc. cit. 33.
- Adami and Nicholls, loc. cit. 33; Cabot, loc. cit. 33; Wood, loc. cit. 33; Stitt, loc. cit. 37; Buchanan, loc. cit. 33.
- Wilson, loc. cit. 38; Dieulafoy, loc. cit. 34; Gulland and Goodal, loc. cit. 33.
- Buchanan, loc. cit. 33; Dieulafoy, loc. cit. 34; Cabot, loc. cit. 33; Gulland and Goodal, loc. cit. 33.
- Burnham, loc. cit. 40.
- Councilman. Smallpox. Osler. Modern Medicine. 1913, vol. i, pg. 808.
- Buchanan. The Blood in Health and Disease. 1909, pgs. 264-274.
- Ewing. Clinical Pathology of the Blood. 1903, pgs. 293 et seq.
- Ewing, loc. cit. 47; Gulland and Goodal, loc. cit. 33.
- Emerson, loc. cit. 36; Gulland and Goodal, loc. cit. 33.
- Ewing. Clinical Pathology of the Blood. 1903, pgs. 332 et seq.
- Cabot, loc. cit. 33; Adami and Nicholls, loc. cit. 33.
- Buchanan, loc. cit. 33.
- Buchanan, loc. cit. 33; Stitt, loc. cit. 37.
- Wilson, loc. cit. 38; Gulland and Goodal, loc. cit. 33.
- Love. Jour. of Path. and Bacter. 1905, x, pg. —.
- Gulland and Goodal. The Blood. 1912, pgs. 249 et seq.
- Dieulafoy, loc. cit. 34; Stitt, loc. cit. 37; Buchanan, loc. cit. 33; Gulland and Goodal, loc. cit. 33.
- Ewing. Clinical Pathology of the Blood. 1903, pg. 169.
- Wilson, loc. cit. 38; Gulland and Goodal, loc. cit. 33.
- Gulland and Goodal, loc. cit. 33; Dieulafoy, loc. cit. 34.
- Ewing, loc. cit. 56.
- Adami and Nicholls, Cabot and Buchanan, loc. cit. 33.
- Sahli, loc. cit. 36.
- Cabot. Physical Diagnosis. 1909, pg. 481.
- Ewing, loc. cit. 56.
- Adami and Nicholls, loc. cit. 33.
- Cabot. The Lymphocytosis of Infection. A. J. M. Sc., 1913, vol. 145, pg. —.
- Ibid, loc. cit. 33.
- Burnham, loc. cit. 40; Sahli, loc. cit. 36.
- Burnham, loc. cit. 40; Cabot, loc. cit. 62.
- Dieulafoy, loc. cit. 34.

CLINICAL RECORDS.*

By EUGENE S. KILGORE, M. D., San Francisco.

IV. "THE WARD REFERENCE BOOK."

The duty of hospitals to try out the newer suggestions in diagnostic and therapeutic procedures necessitates their doing many things which are not described in text-books; and it is customary for the workers to keep memoranda of such procedures for handy reference. What often happens, however, is that interns keep notebooks or card systems while they are on service and carry them away or lose them when they leave, so that the routine work of the wards and laboratories is subject to frequent alterations. While changes in technic are often desirable, they should of course be dictated by choice rather than chance, and the

* Fourth article describing the clinical record system in the University of California Hospital. An article by Dr. J. L. Whitney and one by the writer on related subjects appeared in the Boston Medical and Surgical Journal of November 18, 1915. Reprints of the series when complete, together with record forms, etc., will be sent on request.

hospital organization should aim to eliminate to the greatest possible extent the jars incident to changing of staff.

With this in view, a "ward reference book" has been used in the University Hospital during the last three years. Reference has already been made to it several times as containing instructions to interns and nurses in regard to the form of histories, methods of charting, permissible abbreviations, etc., etc. It has an alphabetic index and detachable leaves to facilitate changes; and it is the authorized guide for interns and for students who may be working in the wards.

A copy of the book and of the changes made in it from time to time is incorporated in the bound volumes of the clinical records, so that, as already explained, another important function of this book is to make clear to those in the future who use the records the exact technic of various tests in vogue at any given time. This function of supplementing the permanent clinical records implies a still greater need for continuity of the scheme. *To secure this continuity it is necessary that some person in a permanent salaried position assume the responsibility for it.* The logical one to do this is the custodian of records. When new clinical procedures are introduced, some member of the staff looks up the literature and writes out the reference and a condensed description of the technic and leaves it in the record room where copies are made for the records and for the "ward reference book" (which may thus be kept in duplicate in several convenient places in the hospital). When members of the staff forget to do this the omission is quickly discovered in the filing room by finding unfamiliar tests mentioned in the records, and the responsible persons are asked to supply the needed data.

The following extracts from the ward reference book which, as indicated above, have been supplied by different members of the hospital staff, will serve as illustrations. The list is not complete and is indorsed only as things which were considered worth a trial.

ACIDOSIS.

Alkali Tolerance Test for (Peabody, Arch. of Int. Med., Dec. 1915, p. 958).

Give $2\frac{1}{2}$ gm. sodium bicarbonate by mouth every hour and at the same time collect a specimen of urine. Record grams of soda consumed before the urine (examined fresh) becomes acid to litmus paper. The high normal limit is about 10 gm.

AMEBA STAIN.

(Modified Schaudin.)

1. On slides or cover slips fix for 1 minute at 60° to 70° C. very thin smears from stools with: saturated aqueous mercuric bichlorid sol. 2 parts, absolute alcohol 1 part. Transfer to cold bichlorid alcohol mixture for 10-15 minutes.

2. Place in 60% alcohol for a few minutes.

3. Place in 70% alcohol and a few drops of tincture of iodine for a few minutes.

4. Pass through 70%, 80%, 70%, and 60% alcohol for 3 or 4 minutes each.

5. Place in distilled water for 5 minutes.

6. Stain with much diluted Delafield's hematoxylin 2-4 hours.

7. Rinse in tap water.

8. Differentiate with acid alcohol (0.5-1.0% HCl).

9. Rinse and wash in tap water one-half hour.

10. Pass through 60%, 70%, 80%, 90%, 95%, and absolute alcohol for 3 or 4 minutes each.

11. Place in Xylol. Mount in Balsam.

Instead of Delafield's hematoxylin in No. 6, may use iron hematoxylin, applying the mordant for 3 hours and the hematoxylin for 20-24 hours. Differentiate very carefully with diluted mordant. Dehydrate and mount as above.

ANEMIA CASES.

Complete counts once a week as long as hemoglobin is below 60%.

Platelet count on entrance. *Coagulation time* and *bleeding time* on entrance. Blood findings to be plotted on special graphic chart.

In making differential counts particular attention is to be paid to the red cells, and the presence or absence of pathological changes noted. The presence or absence of nucleated reds to be noted. If present, their numbers per cu. mm. to be calculated, and they are to be classified (in percentages) as to normoblasts, megaloblasts and intermediates.

BLOOD EXAMINATION.

(See also anemia and leukemia.)

A complete examination (hemoglobin, red and white cell counts, and a differential count) is to be done as routine on entrance in every case in which the hemoglobin is *more than 110%* or less than 75%. In other cases, hemoglobin estimation, white count and differential, are sufficient.

Hemoglobin: Dare instrument to be used.

Red Count: Count four units (consisting of 25 small squares each) in each of two preparations, making sure that Newton's rings are present and that the cells are evenly distributed before counting.

In cases where the red count is very low and the white count very high, as in leukemias, do not try to distinguish reds from whites in the counting chamber, but count every cell and make the correction later by subtracting from the result the white cell count. This is ordinarily not necessary unless the white count is over 100,000.

White Count: Count the cells in one square millimeter in each of two preparations, observing the same precautions as above.

In anemia and leukemia cases, when the differential count shows a large number of nucleated reds to be present, the white count must be corrected to allow for them, since in the counting chamber both whites and nucleated-reds were counted as whites. (E. g., if the count totaled 22,000 cells per cu. mm., and the differential count showed 10 blasts to every 100 leukocytes, the true number of leukocytes per cu. mm. would be 20,000 per cu. mm.)

Differential Count: Use thin smears on *cover glasses*. Stain with Wright's stain. In ordinary cases count at least 200 leukocytes and indicate number counted in the report. Classify as follows: Neutrophiles, Large Mononuclears (including "transitionals"), Lymphocytes, Eosinophiles, and Basophiles (Mastzellen). If myelocytes be present classify them as to neutrophilic or eosinophilic granulation.

In regard to the red cells: always note the average size and whether any of the following pathological changes are present: central pallor, stippling, polychromatophilia, poikilocytosis and anisocytosis. If the red cells appear normal, *state that fact on the record*. If nucleated reds are present do *not* tabulate them as percentage of white cells. Mention how many were seen in making the differential count, and if more than one or two, calculate their number per cu. mm.

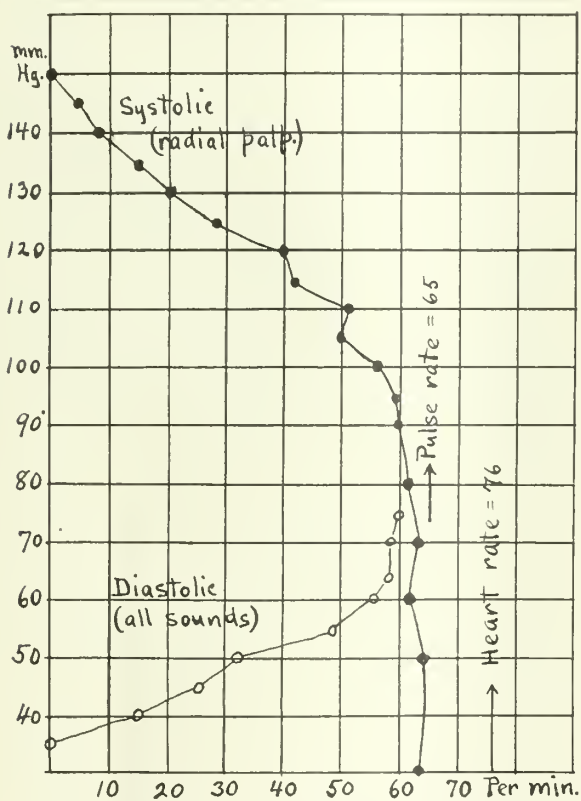


Fig. 1. Showing method of recording fractional blood pressure determinations.

This is done by noting the ratio between them and the leukocytes. If the blasts are numerous, the white count must be corrected to allow for them. (See under "white count.") Nucleated reds are to be classified as follows: *normoblasts*, cells the same size as a normal red cell, with a densely staining, sharply outlined (pyknotic) nucleus; *megaloblasts*, cells in which the nucleus is at least the usual size of a red cell, and the cell body itself considerably larger; *intermediates*, cells a trifle larger than normoblasts, with the nucleus staining less densely and either fragmented, lobulated, or undergoing mitosis, and the cell proto-

plasm usually showing basophilic granulations or polychromatophilia.

Bleeding Time. (Duke, Jr. A. M. A., 1910, lv., 1185.) "A small cut is made in the lobe of the ear. At half-minute intervals the blood is blotted up on absorbent paper. This gives a series of blots of gradually decreasing size. Each blot represents one-half minute's outflow of blood. The rate of decrease in the size of the blots shows the rate of decrease of hemorrhage. The cut should be made of such a size that the first half minute's outflow of blood makes a blot one or two centimeters in diameter. The total duration of such a hemorrhage is called the bleeding time." It is normally one to three minutes.

Coagulation Time. By venous puncture draw 2 c.c. blood into a clean syringe which has been dried, rinsed with albolene, then normal salt solution; and inject it into a clean, dry test-tube about 14 mm. in diameter. The test of coagulation is ability to invert the tube slowly without dislodging the blood. By this technic normal blood in room temperature of 20° C. clots in about 15 minutes. For each degree below this temperature about 1 or 2 minutes will probably be added to the coagulation time. The results, however, should be controlled by a simultaneous determination with normal blood.

Blood Sugar Estimation. (Lewis and Benedict, Jr. Biol. Chem., Jan., 1915.) Discharge exactly 2 c.c. blood obtained by venous aspiration into an Oswald pipette into a 25 c.c. volumetric flask containing 5 c.c. water. Shake thoroughly, then add 15 c.c. saturated aqueous solution of picric acid and 1 or 2 drops of alcohol to dispel the foam. Add water to the 25 c.c. mark, shake, and filter. Measure 8 c.c. aliquots into large test-tubes for duplicate determinations. To the tube being examined add 1 c.c. of a 10% sod. carbonate solution (as well as two glass beads and 2 or 3 drops of mineral oil), and evaporate rapidly over a direct flame until precipitation occurs. Add 3 c.c. water and again boil to dissolve the precipitate and transfer quantitatively to a 10 c.c. volumetric flask. Cool, make up to the mark, shake, and filter through cotton into the colorimeter chamber, and compare at once with the

Permanent Standard Solution.

Picramic acid 0.064 gm.
Sod. carbonate (anhydrous)..... 0.100 gm.
Water to make.....1000. c.c.
Dissolve the picramic acid with the aid of heat. If this standard solution is correct its color will be the same as that of 0.64 mgm. dextrose, 5 c.c. saturated picric acid and 1 c.c. of 10% sod. carbonate when evaporated to precipitation over a free flame and diluted to 10 c.c.

Calculation: Per cent. of dextrose in the blood = $\frac{1}{10}$ the reading of standard solution \div reading of unknown.

Blood Urea Determination. (Modified from Van Slyke and Cullen, Jr. A. M. A., May 16, 1914, p. 1558.) Five c.c. of fresh blood or spinal fluid, measured with an accurate pipette,

are run into a 100 c.c. test-tube, containing 1 c.c. of 3% potassium citrate (to prevent clotting). One-half c.c. of the urease solution and 2 or 3 drops of caprylic alcohol (to prevent foaming) are added. After ten minutes 5 c.c. of the saturated potassium carbonate solution are added, the ammonia is driven by aeration¹ into 10 c.c. of a fiftieth-normal acid (hydrochloric or sulphuric), and the excess acid is titrated back with hundredth-normal sodium hydroxid. Each cubic centimeter of hundredth-normal acid neutralized indicates 0.01 per cent. (grams per hundred cubic centimeters) of urea in the blood, or .0056 per cent. of urea nitrogen.

In case the blood should be one of the rare samples containing over 0.15 per cent. of urea, all the acid will be neutralized, and it will be necessary to repeat the determination, using a sample of only 1 c.c. Fresh blood contains so little ammonia that it can be disregarded.

Preparation of the Urease Enzyme Solution: Two gm. of the enzyme preparation (extracted from the soja bean—obtainable from Arlington Chemical Co., Yonkers, N. Y.) 0.6 gm. of dipotassium hydrogen phosphate, and 0.4 gm. of potassium dihydrogen phosphate, are stirred up with a rod in 10 c.c. of water. The enzyme preparation dissolves in about a minute, forming an opalescent solution. A few floccules of insoluble matter may remain, but the active enzyme all goes into solution at once. The urease can be obtained from the manufacturers in 1 gm. proportions already mixed with the proper amounts of phosphate, so that it is merely necessary to dissolve the mixture in 10 c.c. of water. The acid phosphate serves a double purpose; it accelerates the enzyme action and renders the enzyme solution more stable. If the latter is covered with toluene it will ordinarily hold its activity for a fortnight, but it is safer to use fresh solutions.

BLOOD PRESSURE.

In all cases readings should be recorded on day of entrance, on the following day and not less than once a week thereafter. Patients with systolic pressure over 160 mm. Hg. should have the measurements daily. After proper instruction nurses may be trusted to make these measurements in ordinary cases under the close supervision of the resident staff.

Ordinarily the following technic is to be used: With the patient in the dorsal decubitus (except when orthopnea is present) after at least 10 to 15 minutes' undisturbed rest, the 12 cm. cuff is fitted smoothly around the upper arm. It may be over the thin loose nightgown sleeve, but not over heavier clothing. Use a mercury pressure gage or a dial instrument frequently checked up by comparison with mercury. Determine systolic pressure by radial palpation, reading at the time the first wave is felt during *gradual decompression*,

and record the highest of two or three readings made in quick succession. Then rest the arm by releasing the air from the cuff for a few seconds. Reinflate the cuff and with falling pressure read diastolic blood pressure at the "change of sound" index if this is clear; if not, at the instant of sound disappearance. Record the highest of two or three readings, and always indicate in the report which criterion was used.

Do not try to read blood pressure after the cuff has been inflated continuously for longer than 30 or 40 seconds; let out the air and try again.

The technic described above is sufficient only for cases with fairly regular heart action.

The Fractional Method of Blood Pressure Determination (Kilgore, Arch. of Int. Med., Dec. 1915) should be applied by the intern once a week in cases with auricular fibrillation or other gross arrhythmia. Proceed as follows:

Find the cuff pressure at which no beats come through (indicated by radial palpation). Suppose, for example, this to be 150 mm. Hg. After resting the arm a few seconds, reinflate the cuff and maintain the pressure at 145 for exactly one-half minute and count the waves felt. Again rest the arm and count with pressure 140, and so on until as many waves are counted as can be palpated with zero cuff pressure.

For diastolic pressure proceed in the same way, counting with the stethoscope below the cuff all sounds heard in half-minute intervals (or only the loud staccato notes in case the sounds persist with zero cuff pressure).

Express the results graphically as shown in Fig. 1.

IS RABIES UNDER CONTROL IN CALIFORNIA?

By J. C. GEIGER, M. D.,

Assistant Director of the Bureau of Communicable Diseases of the California State Board of Health.

The results shown in the following table are based upon records of the laboratory of the Bureau of Communicable Diseases of the California State Board of Health. The table shows the number of examinations, by months, of brains proven positive for rabies by microscopical examination and animal inoculation:

A glance at the table above will serve to indicate the steady decrease in the number of examinations for the year 1915 up to date. Coincident with this decrease, the demand for the Pasteur treatment of persons bitten by rabid animals grew less. At the State Hygienic Laboratory and its branches the Pasteur treatment was administered to one person in July, two in August, one in September, none in October, one in November, and none in December, 1915. With the antirabic virus supplied by the State Hygienic Laboratory to the various city health departments, there was treated in Los Angeles one person in July, two in August, none in September, three in October,

¹Use either compressed air or suction. Let the air be first washed through an acid solution to remove any atmospheric ammonia, then pass through the urease solution, then the hundredth-normal acid solution. In each of the three containers have the inlet tube reach to the bottom.

two in November, and none in December. Virus was supplied to the San Francisco Health Department for two persons in August and one person

1912.		1913.	
January	15	January	22
February	18	February	28
March	15	March	33
April	21	April	25
May	30	May	22
June	14	June	23
July	12	July	22
August	19	August	25
September	15	September	21
October	19	October	38
November	30	November	20
December	36	December	44
Total	244	Total	323
1914.		1915.	
January	43	January	7
February	34	February	7
March	31	March	7
April	11	April	4
May	8	May	7
June	13	June	3
July	4	July	3
August	5	August	0
September	8	September	1
October	4	October	9
November	9	November	2
December	13	December	7
Total	183	Total	57

in December only. No treatments were supplied to either Sacramento or San Diego. Compare these figures with 10 persons treated in July, 19 in August, 24 in September, 41 in October, 17 in November, and 22 in December of the year 1913, and 19 in July, 10 in August, 24 in September, 9 in October, 8 in November, and 7 in December of the year 1914.

WHAT ARE THE REASONS FOR THIS DECREASE?

Rabies is a preventable disease and organized efforts have been made to check its progress in California, but a lack of co-operation and some opposition has retarded the work. When rabies attacks a community where it has not appeared before there are usually a few scattered cases followed later by a sudden sharp epidemic which may involve a large number of cases, depending on the size of the community attacked. The epidemic seems to reach its maximum, then there is an equally sudden fall. The spread of rabies in California has been steady and continuous up to the latter part of the years 1914 and 1915, as shown in the table.

RABIES IN COYOTES IN CALIFORNIA.

The first coyote's head sent to this bureau for examination for rabies came from Tulare county in April, 1913. This coyote's brain proved positive for rabies on microscopical examination, many typical, intracellular Negri bodies being found. This was the only coyote examined until recently.

In February, 1915, two coyote heads were received from Modoc county. Examination of the brains proved negative for rabies by both microscopical examination and animal inoculation. The brain of a coyote trapped in the hills back of Berkeley, Alameda County, was examined for rabies in February, 1915, and found negative on microscopical examination and animal inoculation.

On March 8, 1915, two coyotes' heads were sent by the Forest Supervisor of the Fremont Na-

tional Forest Station, at Lakeview, Lake County, Oregon. Examination of these heads was made as a courtesy for the State Board of Health of Oregon. Examination of the brains showed many typical Negri bodies within the ganglion cells. In October, 1915, six coyotes were examined for rabies, five from Modoc county and one from Lassen county, all proving positive for rabies. In December, 1915, one coyote's head received from Modoc County was found positive. Of the brains examined in October which proved positive for rabies, nine in all, eight came from Modoc and Lassen counties, and in December all came from Modoc County. Every variety of animal is affected, brains being received from coyotes, cows, dogs, a cat and a horse.

The results given above of the examinations of heads sent in recently is confirmatory evidence that rabies does exist to an alarming extent among the coyotes in Modoc and Lassen counties. Rabies in coyotes has been known for some time in Oregon, and reports from Nevada show coyotes affected with the disease there. These states are doing practically nothing to eliminate rabies within their borders. Therefore, it is reasonable to believe that the probable source of infection in Modoc and Lassen counties came from these bordering states, though rabies has previously existed in dogs in Shasta and Siskiyou counties.

Following an investigation of the conditions in Modoc county relative to coyotes being affected by rabies, Dr. W. E. Coppedge, health officer of Modoc county, recommended that a quarantine area be established, to include all of Modoc county, and to apply to domestic cats and dogs. A quarantine was immediately put into effect in accordance with the regulations of the California State Board of Health for the control of rabies in Modoc and Lassen counties. A bounty of \$2.50 per head has been placed upon coyotes by the board of supervisors of Modoc county. Following a conference with the Northern Cattlemen's Association of California, the California State Board of Health began active extermination of coyotes in these counties, being ably assisted by the United States Biological Survey and the Forest Service.

Modoc and Lassen counties undoubtedly face a serious outbreak of rabies and already considerable financial damage has been felt in the loss of a number of live stock. Prompt establishment of the known means of control will undoubtedly serve to ameliorate such conditions and check this new outbreak of the disease in California.

Judging from the statistics quoted, rabies may now be considered under control in California, except in Modoc and Lassen counties, and of the contributing factors the following are probably the most important:

First. That the disease is now endemic in the more populous communities of the State, and

Second. The enforcement of muzzling ordinances in the communities attacked, in accordance

with the regulations of the California State Board of Health.

While it is probable that rabies is under control, this control can be made complete only by the continuous enforcement of stringent muzzling laws over a long period of time.

THE PROGNOSIS OF PROSTATITIS.*

By MELVILLE SILVERBERG, M. D., San Francisco

If diagnosis may be represented as of two dimensions, prognosis may be considered as determining the third. As it projects into the future its influence becomes dynamic and in place of a flat picture one is obtained offering perspective. This casting into relief, as it were, is as essential for the purposes of orientation as range lights to the pilot. In any approach to disease, whether general or specific, the attitude of mind based upon deductions as to its probable course and the possible contingencies defines the views of the present in terms of the future, rationalizes them and stabilizes them. It is this very attitude of mind toward a single pathological condition which the following discussion will attempt to present.

The views expressed are personal, the result of daily observation and study influenced of course by the communications of others on the subject as gathered from the literature. In presenting these views generalization with a broad range of application has been sought rather than a detailed inspection of a series of cases. Let it at least be assumed that this has been done, thus sparing a tedious survey of figures, percentages, etc.

In the desire to attain proficiency in the more technical and scientific branches of urology the result has unfortunately been that lesser ailments amenable to the exercise of ordinary skill are temporarily lacking the important consideration which some of them need. The methods of treatment are still crude and too often ineffectual. The gross empiricism by which they became established still dominates our conception of a proper therapy, which the results justify to a great extent. But on the other hand improved methods of investigation and control have shown that there are limitations upon the possibilities for effectiveness in that cases occasionally fail to respond.

When a pathological condition is commonly met with and has the far-reaching significance of prostatitis, any failure of the accepted measures to combat it occasions regret. That these measures are not entirely satisfactory is rendered evident by the large number of sufferers who pass from competent hands into other competent hands, constantly failing to find a modicum of relief until they eventually become hopelessly discouraged. Prognosis through the very fact of uncertainty therefore becomes a vital problem not only as regards the individual, but also from the standpoint of hygiene and prophylaxis.

The individual being sensitive to any impairment of the sexual organs, the mere consciousness

of chronic disease in itself is sufficient to occasion concern. But whether symptoms be present or absent the demands for alleviation and cure are no less urgent, for prostatitis needs to be controlled in the interests of public welfare. There is little doubt that from it contagion is frequently disseminated by promiscuous intercourse. In fact it may be conservatively stated that, were it not for the prevalence of chronic prostatitis, gonorrhea would cease to be practically universal.

Of far greater moment, because more disastrous in its results, the problem of possible marital infection is one demanding most earnest attention. The situation may become most disconcerting, for the questions involved are vital to the welfare of the individual if contemplating marriage, and frequently disastrous to the integrity of domestic life if marriage has already taken place. How often will a prostatitis remain as the only sequel of an acute urethritis contracted years before and seemingly cured! The task of interdicting marriage under such circumstances to a young man, who may be otherwise preeminently fit, is a most unpleasant one. But when after a happily consummated marriage a long dormant pathological process, awakening, threatens to disturb the serenity of conjugal life, the situation is to be decidedly deprecated, commanding unusual sympathy.

It will thus be seen that the proposition of prognosis enters as a consideration of greatest moment. Unfortunately it is impossible to forecast any case with the clearness of prophetic vision. There are, however, certain factors arresting attention, which, when properly correlated, may help to cast light upon the outcome. A review of these factors is the motive underlying the present contribution. They divide themselves under three general headings: Firstly, the details of the history; secondly, the objective examination, especially the microscopic appearances of the prostatic secretion; and, thirdly, the influence of treatment.

As regards the history, it must be apparent to anyone constantly handling cases of prostatitis that those in which the disease must have been present for some years are usually the most unpromising. It is therefore incumbent to endeavor to ascertain, as far as probabilities will allow, when the gland first became invaded. Usually this will have taken place with the first attack of gonorrhea and will have persisted. If exacerbations have occurred from time to time, it is reasonable to assume that the prostate in whole or in part must have become thereby more or less disorganized and the outlook is accordingly rendered less hopeful. But if such a desperate attitude in regard to long-standing cases is to be assumed, the contrary is true of recent invasions. An early case, other things being equal, certainly offers the most favorable outlook.

This being true, it follows in the interest of the patient's future that the logical course to pursue is to examine for and treat prostatitis at the earliest permissible opportunity. It must be emphatically borne in mind that extension into the prostate takes place in a large percentage of cases of gonorrhea and that this is frequently so insidious that it cannot be suspected from the symptoms.

* Presented at a meeting of the Urological Section of the San Francisco County Medical Society August 31, 1915.

Therefore no case should be dismissed as cured until a proper examination of the prostate has been made. Such a statement would seem almost superfluous, were it not for the general neglect of this most important procedure which requires nothing but a discerning finger and the ability to recognize pus microscopically. The patient usually pays for the omission later with discomforts of various kinds and of varying degree, his prospects for restitution diminished by time.

The second factor mentioned as offering a basis for prognosis concerns the objective examination, especially the microscopic character of the secretion. There are, of course, two methods in common use of ascertaining the condition of the prostate, rectal palpation and microscopic analysis. Now inasmuch as discrepancies are likely to occur, the relative importance of the two is open to discussion. To be sure, when possible, the facts determined by both methods should be so correlated as to permit the formulation of an approximately truthful pathological picture. But it is a question which of the two affords a more accurate and safer standard for comparison. In my own experience I have come to rely more and more upon the microscopic examination, having found that rectal palpation may be misleading. The conformation of the rectal surface of the normal prostate is subject to variations in size as well as of contour. Asymmetry is not uncommon and differences of consistency, such as hard and soft areas, are frequently met with in a single gland, which otherwise shows no evidence of disease. On the other hand glands which are the seat of frank inflammation may prevent a smooth surface, perfect symmetry, regularity of outline, and a uniform, firm, elastic consistency. In other words, as far as evidence elicited by palpation is concerned the prostate is to be considered normal. But the picture presented by the massaged secretion fails to substantiate such a conclusion.

While it is therefore unsafe to rely upon the data of rectal palpation alone, observation of the expressed secretion without an attempt at critical interpretation may be delusive. To the unaided eye a specimen of prostatic secretion obtained by massage, though it contain abundant pathological elements, nevertheless frequently can not be distinguished from the normal, presenting the same grayish, opalescent, homogeneous appearance. The necessity of microscopic examination is therefore obvious. The observer will not alone have the advantage of determining the presence or absence of pus cells or organisms, but will be able to gain a fair estimate of the extent of prostatic involvement. In this he will be guided by noting the proportion of pus cells to the normal elements of the secretion. In some specimens indicating marked involvement the latter may be almost entirely absent; in others indicating less extensive changes the pus cells, though numerous, may be interspersed by a fair proportion of lecithin bodies; again in the mildest cases the appearance may be generally normal with only a moderate number of pus cells.

Generally speaking, the less the gland is involved as disclosed by the microscopic picture the

more favorable the outlook. But certain sources of error must be recognized. Firstly, the distribution of pathological elements may be uneven. The first drop or two expressed may show abundant pus cells and few lecithins, while subsequent drops may show the quantitative proportions reversed. Casual inspection of the mixed secretion so obtained would suggest a moderate, diffuse prostatitis, whereas in truth marked involvement in a small focus may be thus masked and the prognosis is accordingly less hopeful than would appear. Secondly, the density of the lecithin bodies is subject to variation even in a given individual. At one time the secretion may be thin and watery, at another pearly white and almost opaque. If the estimate of degree of involvement of the prostate is then to be based upon the numerical proportion of pus cells to lecithin bodies, this variable becomes a possible source of faulty deduction. Thirdly, this is not the only variable, as the pus cells too may be found to vary in number on successive examinations, though within narrower limits. The recognition of such fluctuating features as the foregoing must have weight in any critical interpretation of the microscopic picture before any conclusion can be based upon the premises.

The third factor determining prognosis depends upon the influence of treatment. Before, however, considering therapy one might well ask what are the chances for spontaneous recovery. To what extent do inherent recuperative powers play a part? Now while it is true that the great majority of untreated cases of prostatitis persist with an aggravating obstinacy, it cannot be denied that occasionally the condition clears up quite independently. Examinations made at infrequent intervals are quite sufficient to establish the truth of this statement. Had these examinations been made more frequently and repeatedly, it might be reasonably alleged that a form of effective therapy, namely prostatic massage, had been employed and that therefore the cases could not properly be considered as untreated. This is, of course, not to be understood. Again, it has been surprising to note occasionally after an extension into the posterior urethra accompanied by severe symptoms that at a period when these symptoms have subsided and conditions are propitious, an examination of the prostatic secretion shows an almost normal composition with but little pus. This apparent paradox is rather difficult to explain. The mechanisms of anti-body formation may suggest themselves at once to those who favor convenient hypotheses.

If, then, cases occasionally get well without treatment, most of them do not. The issue of such cases depends entirely upon how they respond to accepted therapeutic measures. These well-known measures consist of prostatic massage followed by an instillation of silver nitrate, $\frac{1}{2}\%$ to 2% , or the use of other solutions in various ways, and the administration of vaccines, using pure gonococcic, mixed gonococcic, or the sensitized preparations, the so-called sero-bacterins. Both interval and dosage must be regulated to suit the demands of the case. Now it is gratifying to observe undoubted recovery many times, but such recovery is seldom

prompt and, besides, so often does treatment fail to accomplish more than mere improvement that some uncertainty, not to say misgiving, is very apt to develop.

Whether the conditions presenting appear favorable or not upon the premises previously mentioned, the probable duration of treatment can only be approximately surmised. Even then the unexpected so frequently happens that one hesitates to venture an opinion. However, within three or four weeks from the commencement of treatment the views on duration should become clearer, depending upon the manifest results thus far obtained and the possibilities for continued progress. When nodules are felt to soften or vanish from the substance of the gland and the amount of pus in an average microscopic field is seen to diminish and the normal elements to increase in proportion, an early cure may be predicted with reasonable assurance.

But it happens all too often that no change of the conditions takes place, though uniform treatment has extended over a period of six to seven weeks. The assumption is reasonable that continuance of such treatment without modification must remain without effect. It can only serve to prolong indefinitely what it seeks to allay. Under such circumstances routine is fruitless and can scarcely be countenanced. The procedures employed must be modified or additions made with a view to securing improvement, a systematic plan for the purpose being advisable. It may be necessary to massage the prostate at longer, seldom shorter, intervals than three days. Massage may have been too vigorous or too prolonged. Parenthetically it may be stated that an occasional red blood cell may be found in the secretion, though gentleness has been observed. But actual trauma through severe massage must be avoided, for it is only reasonable that a tissue already inflamed can not thus be restored to normal; in fact harm may be done. Perhaps it is not the massage but the instillation which serves to prolong the disease or otherwise obscure the evidence of restitution. The strength of the silver solution employed may have to be modified or it may be necessary to substitute one of the various organic preparations for the nitrate. Occasionally a peculiar idiosyncrasy to silver is seen. The immediate reaction may not be severe but there is evidence that the case is unfavorably influenced and irrigation may be found to be preferable. Here again systematic use of one's resources is called for.

In many cases, either at the beginning or at some time during the course of treatment, recourse to the use of vaccines may be thought necessary. This, of course, is always a tempting subject for discussion, which is too likely to be carried beyond the proper province of this paper, the title of which, it will be recalled, is prognosis, not treatment. That vaccines have added an effective means of aid in the achievement of favorable results is generally admitted. Stock vaccines are usually employed and here again the vital point is the systematic control of the kind, dose and interval, adherence to a definite plan being of first importance. Should the ordinary stock suspension

not avail, the use of the sensitized preparations is certainly worth trial. There are some who favor autogeneous vaccines exclusively and doubtlessly upon very justifiable grounds. But the securing of a culture from the prostatic secretion is surrounded by certain difficulties, leading to uncertainty in the identification of the growing organism with pathogenic relations to the prostate. Smears made from the meatus show the gleet discharge associated with chronic prostatitis to be teeming with enormous numbers of organisms of the greatest variety. Hence, contaminations from this source are almost inevitable, whatever method be used for securing a culture.

On the whole there is a justification in the use of vaccines as an adjuvant in the treatment of prostatitis, provided the vaccines be used thoughtfully and in accordance with the established principles of vaccine therapy. They do seem at times to shorten the course of treatment and in some cases appear indispensable to cure. To this extent they favor prognosis. Nor on the other hand can they be truthfully said to hinder the progress of a case except perhaps in isolated instances. Frequently they absolutely fail to offer any evidence of action whether for good or bad. The relation of vaccine therapy to prognosis is consequently shrouded in considerable uncertainty, as at the outset one can not distinguish those cases that will respond from those that will not.

Quite relevant to the subject of therapy, it is sometimes rather surprising to observe the value of personal hygiene in its effect upon the condition in the prostate. Cases that are so intractable as to appear hopeless are occasionally seen to improve or completely recover as the result of a change of climate, a vacation, or a change of occupation. Iron and arsenic may also render some assistance and serve to turn the tide in the patient's favor.

Now up to this point I have attempted to present the subject of prognosis from three angles, namely, history, clinical findings and the influence of treatment, all readily available for those seeking data upon which to base rather tentative conclusions. There are methods untouched upon which, though at present insufficiently exploited to be of value, suggest possibilities for greater clearness in defining the outlook in prostatitis. In fact at some future time they may perhaps enable us to determine with scientific exactness the conditions upon which cure may logically be anticipated. I have reference more particularly to the bacteriology of prostatitis. There are two serious obstacles, however, opposed to bacteriologic study of the living, firstly, the afore-mentioned technical difficulties of securing a true culture, and secondly, the probable failure of growth of the gonococcus, even if, as the principal invading organism, it be successfully transferred to a suitable culture medium. The complement deviation test may serve to circumvent this difficulty, but at the present time it would be rather premature to discuss prognosis upon the basis of bacteriologic or serologic findings.

Time is always an important element of prognosis, one of its fundamental factors. Whether the prostatic condition appear favorable or unfavor-

able, mild or severe, the probable duration of treatment can never be otherwise than approximately foretold. Owing to the necessary vagueness of the response, an embarrassing situation is often created, when one is asked, "How long do you think it will take?" In committing himself to a definite answer the consultant is quite certain to suffer criticism later for promises unfulfilled. A non-committal policy is by all means the best, because it is the only one justified. It is usually more prudent to tell patients that an answer can only be shaped in conformity with the progress of the condition under treatment. Three or four weeks may have to elapse before a definite opinion, if warranted at all, may be ventured, for the duration of treatment is essentially of indefinite length.

It is unfortunate that there is no escape from this vagueness. Thought and experience have rather induced conservatism of opinion and an avoidance of preconceived ideas of a program. One must be prepared to meet besides the unexpected frequent disappointment and many contradictions, exceptions too numerous to sustain any formula. This diffident attitude I have attempted to reflect in the foregoing, and, if there is a lack of clearness, it is because the subject matter itself is not clear. Yet the prognosis of prostatitis is of such importance as to imperatively demand better support. I have tried to show to what extent these demands may be answered.

CONCLUSIONS.

1. It is desirable that prostatitis be cured in every case, but treatment frequently fails or is otherwise unsatisfactory.
2. The outlook is an important matter to the individual as well as from the standpoint of social hygiene and prophylaxis.
3. The probable issue is suggested by the history, the clinical findings and by closely following the effects of treatment.
4. There is really no scientific method of establishing prognosis, though bacteriology may avail here.
5. The duration of treatment is uncertain.

Discussion.

Dr. W. P. Willard: I presume a great many others have something to say on this subject. I think it interests us more, perhaps, than any other of the subjects connected with the genital organs. There are some things in which I do not agree with Dr. Silverberg. One is in regard to the length of time. I do not think that you can, in six or eight weeks' time, determine definitely whether you can cure or have benefited your patient. Sometimes it takes much longer than that. I should put it at least three months, probably four.

Another thing in regard to the question of diagnosis. I do not think we can rely at all on the palpatory findings. I think it is practically of no value at all. You never find two normal prostates exactly alike. One microscopic examination of secretion is not absolutely reliable, as you may not get secretion from an infected portion of the gland.

In regard to the question of the vaccine treatment, what are you dealing with? How many cases of prostatitis are due to chronic gonorrheal infection? Primarily they probably are, but the vast majority, in my opinion, are kept up by secondary infection. I was talking with Dr. Warden,

who has done a great deal of work on the bacteriology of the genital organs. He claims that it is almost impossible to find gonococci in the prostate secretion after the disease has been present for a year. This is an old idea, but he has recently worked it out further. The primary organism was probably gonococcus. But the gonococcus is easily outgrown. We have the urethra, the rectum, and other adjacent organs teeming with other bacteria, and probably the inflammation in the prostate is kept up, in a large number of cases, by other organisms. I think the reason we have not had any results from our vacuum plaque treatment is due to not being able to find out what the infecting organism is. I never yet have found anyone who has had any success at all with the use of bacterins in treating prostatitis. I am glad Dr. Silverberg has been more successful.

Dr. Martin Krotoszyner: The prognosis of prostatitis depends as much upon the intelligence of the patient as upon that of the physician. Unfortunately there exist comparatively few patients with sufficient patience and perseverance to remain with one physician during the long course of treatment, and, that, to my mind, is the main reason why, as Dr. Silverberg mentioned, so many patients run from one physician to another.

Another factor which clouds the outlook of chronic prostatitis is, that it still so frequently is overlooked by the general practitioner and therefore remains untreated. I think it was in 1898, or about that time, that Casper published his very methodical investigations of the pathology of chronic gonorrhea, when he was able to trace between 80% and 90% of these cases to be due to the persistence of a focus in the prostate. That fact has unfortunately not yet penetrated into the rank and file of the general practitioner, and we urologists, therefore, still see quite frequently cases that have been permitted to enter matrimony with chronic and untreated prostatitis.

As regards the diagnosis I place particular stress upon the microscopic examination of the expressed prostatic juice. No other objective symptom, including palpation of the gland per rectum, is diagnostically of such uncontrovertible importance as the presence of microscopic pus, even though gonococci may not be traceable in the specimens.

I agree with Dr. Silverberg in the preponderating importance of methodical massage in the treatment of prostatitis. Long experience with that method of treatment has taught me, though, that in some cases the presence of pus in the prostate, if persistent, while all other symptoms have abated, may be due to traumatism of the gland caused by over-massage. If these patients are permitted to go untreated for a month or two, the microscopic picture will gradually change to the normal.

I have of late studied my material of chronic prostatitis serologically and, while not yet able to formulate conclusions, I nevertheless feel from my observations justified in hoping that the complement fixation test for gonorrhea may prove to be an important guide as regards the prognosis of prostatitis, especially in connection with the question of contemplated matrimony.

Dr. M. Wolff: The fixation test in chronic prostatitis will probably never amount to much as an aid to diagnosis on account of the condition described in the statement of Dr. Warden that the gonococcus is really not present. In doing fixation work, you get less positives in prostatitis than in other post gonorrheic conditions. That would seem to show that the gonococcus itself was not there in its true form, and if that were so the culture method would probably offer better results, because with the new media it is not so difficult to grow the gonococcus and demonstrate its presence if it is there among the other more common bacteria always found in these chronic prostatitis cases.

Dr. Vecki: The subject is of such importance

I cannot refrain from making just a few remarks. Of course, palpation of the prostate, as it was said, does not amount to much, if we consider the contours and the shape and such things, but there is one point that always should be noted, and that is the sensitiveness. The gland that is inflamed and is involved in any kind of infection will show a great deal of sensitiveness, while a gland that is not infected will not be so sensitive.

Another point that physicians who have been studying prostatitis for many years have always lost sight of is this: All patients that come with chronic prostatitis are generally of the class who have either been neglecting their sexual life or are unable to lead a natural sexual life. If you investigate all your prostatic patients, you will seldom find a case that offers any difficulty in curing in a person who leads an active and vigorous sexual life. No massaging will amount to the therapeutic influence of regular and vigorous sexual intercourse. Just consider that point and study your patients in that respect, and you will find it is always the man sexually weak, who does not lead an active sexual life, that comes to you with all imaginable prostatic troubles, so tedious to influence therapeutically.

Of late I am not so much afraid of chronic prostatic cases, and that is since I use fuchsin. Whenever I massage a prostatic gland and express everything that is in that gland, just gently, but thoroughly, without hurting the patient very much, getting out of the gland all the accumulation, then, immediately after the patient has urinated, I take a hand syringe filled with a one-fourth to a one per cent. fuchsin solution, and press that into the patient's bladder. There is no doubt that part of that solution penetrates into the prostatic gland. I have had cases in which, when I massaged the gland the day after for my own satisfaction, I could get a fuchsin stained secretion from the prostatic gland. It seems to me that after the prostate is really emptied, it acts as a sponge would. By pressing the stem of the Jannet syringe against the meatus, using discretion again not to hurt the patient, something of the solution reaches through the ducts into the prostatic gland. My cases of prostatitis clear up most wonderfully after the fuchsin treatment. All germs are fuchsinophil and stained by fuchsin. A germ once stained is certainly a good germ. It never hurts that patient any more.

Dr. William E. Stevens: I think we are inclined to be prejudiced in our opinion regarding the prognosis of chronic prostatitis. Although we do not like to admit this it is nevertheless a fact that we have been unable to cure a certain percentage of these cases. They may be given the benefit of the generally accepted therapeutic measures such as regular and prolonged massage, irrigations, instillations, et cetera, and yet a larger or smaller number of pus cells are found on microscopical examination of the prostatic fluid. We discontinue treatment for a time or the patient discharges himself and if the amount of pus has been small and he does not return we flatter ourselves that the case has been cured. Often the symptoms have again appeared but the patient has decided to try another physician.

Recently I have been using an autogenous sero-vaccine suggested to me by a San Francisco urologist who will shortly publish the technic of preparation and administration together with a large series of cases showing very favorable results. I have been very much impressed by the few cases I have treated so far. One patient had been under the care of competent urologists for two or three years without benefit, the prostatic fluid being loaded with pus cells. This cleared up completely after two intravenous injections of the above vaccine. Whether or not this result can be obtained in a large majority of cases I do not know but I firmly believe that in some types of chronic pros-

tititis hope of cure depends upon an improved vaccine or serum therapy rather than the present method of treatment.

Dr. Silverberg (closing): As much of the discussion has been in the elaboration of my paper, there is very little to say, except to remind Dr. Willard that I said "three or four weeks' time may have to elapse before a definite opinion, if warranted at all, may be ventured."

In regard to the vaccines, I am not so sanguine. I attempted in a way to present the general view rather than my personal experience.

CRIMINAL ABORTIONS AND THE MEDICAL PROFESSION.*

By CHAS. D. BALL, M.D., Santa Ana.

"What would you consider your duty when called to a case of curettage and found it to be criminal abortion?"

This question was asked the candidates for the R. N. certificate by the State Board of Health in the recent October examinations. How would the individual members of this society answer that question? Unless their answers belied their actions many would reply: "I would give the woman the full benefit of my skill and there my responsibility would end." I wonder if any of the nurses made such a reply and how such a reply would be received.

To-day criminal abortion is the most vital problem that confronts our republic; in fact, it beggars all others combined. De Lee in the Practical Medicine Series, 1912, Vol. 5, quotes Jackson as saying that there are annually in the state of Maine fifty thousand criminal abortions. If this be true and Maine is a fair average there are, at least, five million criminal abortions in this country every year. So startling are these figures that few outside of the medical profession will believe that they can possibly be correct. It is well to remember that a woman addicted to the abortion habit may have four abortions where she would have one labor at term. One case has been reported of a woman who miscarried thirty-six times. Germany lost in killed, wounded and missing two and a half million men in the first eighteen months of the present war—the bloodiest war of all ages. Probably less than a million of the Germans were killed outright. During that period seven and a half million of our infants were destroyed. The world is stunned at Germany's terrible loss, but takes not the least notice of America's heart-breaking tragedy. Germany's misfortune will stagger her for a short time, but America's, if continued, means annihilation.

The meager returns of the census of 1910 show that about two million viable babes are born annually. This means that for every living child born there are two and a half abortions.

Abortions are steadily increasing. Busy practitioners are constantly besieged by those soliciting abortion work. The hospitals are filled with this class of patients. Were it not for immigration and the children born of foreign parents our population would be rapidly decreasing.

* Read before the Southern California Medical Association, December, 1915.

To what extent is the medical profession responsible for this unfortunate condition? Our burden is heavy. We are not to blame for the low moral standard of a woman who would destroy her unborn infant, but we are to blame when we abet her in this crime. A woman solicits an abortion of her family physician; he denies her request, but a week later, she having fever or hemorrhage, he cures her without asking a question. Is he not morally and legally accessory to the crime?

Criminal abortions are not all procured by the women themselves, nor by the professional abortionist who does the job for ten dollars. There are more medical society men doing the work than would care to have their names published. These men are really worse than the ten dollar men; more sneaking, more contemptible and harder to reach. They do not work for strangers nor the poor, nor where there is danger of detection. They are quietly gleaning from their more honorable confreres their good pay patients and all the time are blaming the ten dollar men for their own misdeeds.

While the diagnosis is painfully easy the prognosis is exceedingly grave—all but hopeless. Woman is trying to justify herself for the crime; it is no one's business but her own; she cannot afford to have children; by limiting the number of the human family she is really improving its quality; for sacrificing her unfit offspring she should be decorated with a martyr's crown. Moreover, abortion is an unchaste subject to be debarred from good society and ignored by the press—lay and religious.

With more than 10 per cent. of our population actually abortion criminals, and with a very much larger percentage sympathizing with this criminal class, it will require every resource of the nation to successfully combat this evil. Nothing but a national movement may hope for success.

Although it is impossible for the medical profession to deal with this problem alone, it must take charge of it. As in numerous other instances we must protect the people from themselves. It is our duty to do so.

The moral standard of the nation must be raised. Here we must be assisted by the clergy, and I feel that we may depend upon every priest and preacher in the land. They are clean, and abhor crime. No matter how much they may shrink from the task, duty will align them with us.

Our patriots must arouse the patriotism of the women. While millions of the European soldiers are cheerfully giving up their lives for their countries, millions of American women are cheerfully murdering their own offspring from every motive but a patriotic one. Yet there is a class almost driven by poverty to infanticide that should be protected by the nation. Many a mother's eyes fill with tears when she discovers that she is pregnant. Not that she considers herself in the least, but because there is so little for the children already born—little to eat, little to wear and little prospect of equipping them for

the hard struggle of life. God help such a woman, her burden is indeed heavy. Why do not the patriots come to her relief? We have spent billions in pensions for our patriotic soldiers and we are driving these patient, faithful mothers to starvation or crime. Why do not our law-makers save her and her children when they are so badly needed? She is as much a patriot, and as much entitled to our assistance as any man that fought at Gettysburg or El Caney.

Of course, our chief dependence must be upon the laws of our land, but unfortunately, in this state at least, justice is so fettered by the endless technicalities that the legal fraternity itself is ashamed of her forlorn plight. Our laws are all right if they can be enforced.

There is a deeply rooted feeling in the medical profession that all professional secrets are inviolable, but such is not the case. The law reads:

"Sec. 1881. C. C. P. A licensed physician or surgeon cannot, without the consent of his patient, be examined in a civil action as to any information acquired in attending the patient, which was necessary to enable him to prescribe or act for the patient."

Only in civil cases does this law hold. There are no exemptions for a physician's testimony in a criminal case.

Various sections of penal code of California read as follows:

"Sec. 27. The following persons are liable to punishment under the laws of this state:

"All persons who commit, in whole or in part, any crime within this state."

"Sec. 31. All persons concerned in the commission of a crime, whether it be felony or misdemeanor, and whether they directly commit the act constituting the offense, or aid and abet in its commission, or, not being present, have advised and encouraged its commission, are principals in any crime so committed.

"Sec. 32. Accessories: All persons who, after full knowledge that a felony has been committed, conceal it from the magistrate, or harbor and protect the person charged with, or convicted thereof, are accessories.

"Sec. 33. Punishment or accessories: Except in cases where a different punishment is prescribed, an accessory is punishable by imprisonment in the state prison not exceeding five years, or in a county jail not exceeding two years, or by fine not exceeding five thousand dollars."

"Sec. 274. Penalty for abortion: Every person who provides, supplies or administers to any pregnant woman, or procures any such woman to take any medicine, drug or substance, or uses, or employs any instrument or any other means whatever with intent thereby to procure the miscarriage of such woman, unless the same is necessary to preserve her life, is punishable by imprisonment in the state prison not less than two, or more than five years.

"Sec. 275. Submission to abortion: Every woman who solicits of any person, any medicine, drug or substance whatever, and takes the same,

or who submits to any operation, or to the use of any means whatever with intent thereby to procure a miscarriage, unless the same is necessary to preserve her life, is punishable by imprisonment in the state prison, not less than one, nor more than five years."

"Sec. 317. Every person who wilfully writes, composes or publishes any notice or advertisement of any medicine or means for producing or facilitating a miscarriage or abortion, or for the prevention of conception; or who offers his services by any notice, advertisement or otherwise to assist in the accomplishment of any such purpose, is guilty of a felony."

Sec. 275 could be easily enforced but I have never heard of any woman in this state being convicted for soliciting abortion, using drugs or instruments for that purpose, or submitting to an operation with that end in view. The chivalric ages through which man has passed have developed in him a sense that he must never strike a woman, nor betray her confidence. It is only when the woman is dying that he feels it his duty to expose her crime.

Sec. 32 very clearly shows how the nurse should have answered the question propounded by the State Board of Health. Every nurse, every practicing physician and every hospital authority in the state who knows of any criminal abortion and does not report it to the proper authorities is accessory to crime and liable to a term in the penitentiary.

Sec. 317, preventing conception, has been fairly well enforced, but only to increase the abortionist's work. In this state a man may be hanged on circumstantial evidence alone, but conviction for abortion on such evidence is almost impossible. The laws should be so amended that a murderer of an unborn infant should fare no better than any other murderer.

In California, all births of babes, viable and still born, must be reported within a few hours to the authorities. In the same manner abortions should be made a matter of record. They should be reported by the physician, midwife or nurse in charge. The report should show, in addition to the information given in the usual certificate, the cause of the abortion, whether criminal or not, and the name of the consultant. This information would be of great value in ferreting out crime. Of more value would be a federal law compelling physicians and hospitals to record all curettements. The investigation of every curettment by federal inspectors should be made possible. A law like the Harrison Anti-Narcotic Act with equal or more scope would paralyze the abortionists.

In this work the medical profession must be represented by the societies, for in them is the nucleus of organization. The ten dollar abortionists are not usually medical society men, but there are for all that too many malefactors harbored by the societies. These men should be identified and forced to be decent or summarily expelled. The fear of expulsion and unsavory no-

tory will greatly aid in the reformation of many. Medical societies should not be trammelled by technicalities.

To summarize:

The moral standard of many women must be raised.

The medical profession must clean house.

The nation must make it possible for the poor to bear children and it must educate the children of the poor.

Federal anti-abortion laws must be enacted.

For the legal information contained in this paper I am indebted to the Hon. L. A. West, district attorney of Orange County.

THE RESULTS OF THIRTY-FIVE TRANSFUSIONS.*

By SAXTON T. POPE, M. D., San Francisco.

This report of thirty-five transfusions probably adds little to our knowledge, but may help to emphasize what others have proved, and besides our personal experiences always carry the most weight. In the comprehensive report recently made by Ottenberg and Libman of 212 transfusions the subject has been very exhaustively treated and what conclusions we draw seem to correlate with theirs.

The various methods of direct transfusion, those of Crile, Elsberg, Carrel, Brewer, Bernheim; and those of indirect transfusion, Curtis and David, Kimpton and Brown, Lindeman, Unger and Lewisohn, all have their advocates and we have employed them all experimentally or in teaching.

But the majority of the transfusions here recorded were done by the cannula method, using two glass tips connected by a flexible rubber tube. This simple device, paraffined throughout, has served its purpose well. There never has been any clotting in the tube and the flexibility is a definite advantage in adjusting the cannula in the artery and vein. We have found it unnecessary to dissect out the blood vessels; simply expose, ligate and incise diagonally. The glass tips are thus easily inserted and secured, all of which expedites the work.

When thrombosis does occur in a cannula it does so where the intima of the vessel is traumatized by rough technic or too large a cannula. In five of the reported cases the syringe method of Lindeman was used. We found this entirely satisfactory for small quantities of blood and do not question its efficiency in large transfusions. It is purely a matter of habit that one form is used in preference to another. Lindeman's report of 137 transfusions, in some instances amounting to 2000 c.c. of blood, more than vindicates his method.

While at Crile's clinic, in the European war surgery, and throughout the world, some modification of the Brewer tube is being used for most of the transfusions, Brewer himself has said recently that, in the face of Lindeman's simple method, he feels ashamed of the fact that he ever invented his tube.

In none of our transfusions were preliminary

* Read before the Alumni Society of the U. C. Medical School, November 1915.

Service	No.	Diagnosis	Result
Med.	5852	Duodenal ulcer, perforation, hemorrhage	Relieved, hemorrhage checked temporarily
Surg.	5852	Perforating duodenal ulcer, peritonitis	Relieved, laparotomy, peritonitis, death
Med.	8778	Hemorrhage, anemia	Relieved
Surg.	7824	Gunshot wound, hemorrhage, shock	Relieved
Surg.	7824	Secondary hemorrhage, septic	Relieved, re-amputation
Surg.	6182	Hemorrhoids, anemia, phlebitis	Relieved
Private	Mr. M.	Cirrhosis, gastric hemorrhage	Stopped bleeding, died of uremia week later
W. C.	6357	Post-operative uterine hemorrhage, shock	Relieved
St. Luke's	Mr. B.	Post-operative hemorrhage, prostatectomy, profound shock	Relieved
Surg.	?	Pyelonephrosis, nephrectomy, sepsis	Dead
Surg.	6444	Pyelonephrosis, sepsis	Dead
Surg.	7956	Acute miliary tuberculosis, laparotomy, shock	Dead
Surg.	8412	Sinus thrombosis, septicemia	Relieved
Private	Miss T. L.	Fecal fistula, septicemia	Dead
Surg.	6687	Cerebrospinal syphilis, Charcot joint, resection, shock	Dead
Med.	7481	Typhoid hemorrhage	Relieved, stopped hemorrhage
C. & C.	Mr. C.	Typhoid hemorrhage, collapse	Relieved, stopped hemorrhage
Private	M. S. Miss W.	Typhoid, hemorrhage Typhoid, profound septicemia	Relieved, stopped bleeding Dead
Surg.	6485	Gastric carcinoma, inanition	Relieved, exploratory laparotomy
Surg.	6746	Fecal fistula, carcinoma colon, anemia	Laparotomy, relief of shock
Med.	7143	Gastric ulcer, inanition	Relieved of shock, duodenal tube, laparotomy
Surg.	7143	Carcinoma stomach	Relieved, laparotomy, ulcer healed, tube removed
Private	Mr. H.	Sarcoma of axilla	Dead, tumor reduced in size
Private	Mrs. G.	Sarcoma of ovary	Dead
C. M.	6305	Hemophilia, profound anemia	Relieved
C. M.	6305	Hemophilia, bleeding from nose	Relieved, stopped bleeding
C. M.	6305	Hemophilia	Relieved, hypertransfused hematuria
C. M.	6515	V. Yakes, pseudoleukemia	Relieved
C. M.	6515	V. Yakes, pseudoleukemia	Relieved
Private	M. J.	Purpura hemorrhagic	Unimproved
Private	S. T.	Purpura	Relieved
Private	Miss S.	Giant urticaria	Relieved
Private	Miss S.	Urticaria	Relieved
Private	C. A.	Urticaria	Relieved

tests made for agglutination or hemolysis. Wassermann tests were made whenever haste did not demand immediate action. Here, of course, a clinical examination had to suffice. It is undoubtedly advisable to have a series of prospective donors on whom blood studies have been carefully made. In one instance a slight hemolysis occurred, but did no damage. In another instance the donor had a streptococcus angina which was not discovered until later. The recipient had an immediate chill followed by quite a fever for a few hours. One case of hypertransfusion occurred in a child and signs of cardiac embarrassment with subsequent hematuria developed; no harm resulted.

A summary of these cases roughly establishes the following conclusions:

1. In sarcoma. Although in one case the tumor underwent a rapid reduction in size, the patient died of metastases. Transfusion failed to relieve.
2. In sepsis, without hemorrhage. No improvement resulted.
3. Inanition, transfusion prior to operation is of great benefit.
4. Hemophilia is relieved temporarily.
5. Von Yacks' pseudoleukemia was relieved of the anemia and apparently hastened the recovery.
6. In purpura, though transfusion has been of signal success in many reported instances, in one case it failed to improve.

7. In urticaria it gave immediate and lasting relief.

8. In the hemorrhage of typhoid it was of great value, resuscitating three apparently dying patients and stopping the bleeding abruptly.

9. In hemorrhage and shock it acts as nothing else can and undoubtedly saved the lives of five of the nine persons transfused.

Berard and Lumière report miraculous recoveries of soldiers practically moribund from hemorrhage. They employ women for donors. While this is undoubtedly desirable where able-bodied men are at a premium, we have found that women make poor donors as a rule. In the two instances where an insufficient flow of blood came from the radial artery the donors were women. They seem to be more susceptible to adrenalin than men. It has been part of the technic of nearly all surgeons to use this drug in the local anesthesia and with no apparent detriment. But where sympatheticotonia exists an abnormal reaction may lessen the calibre of the radial artery.

The amount of blood flowing through the cannula at the end of a good transfusion usually is at the rate of half an ounce in ten seconds or three ounces a minute.

The Simons, Irving report of two untoward

results in the use of sodium citrate mixed with blood rather dampens one's ardor for the employment of this indirect method. Nor does the use of hirudin as an anticoagulant appeal to one.

Abel has advocated a method termed plasmaphoresis, wherein washed blood cells mixed with salt solution are substituted for blood. The essential element of blood is supposed thus to be furnished. Experimentally I have tried this method but the difficulties of washing the large quantity of blood needed are considerable. For 1000 c.c. of blood it is necessary to centrifuge 20,000 c.c. or 10 gallons of solution. This and an indefinite dislike for cold storage blood rather prejudices me against it.

As a feature of technic we have found that citrate and salt solution used freely on the exposed blood vessels during the entire operation is much more efficient in maintaining the anti-thrombin-prothrombin balance than a protective coating of petrolatum. The subject of untoward results of transfusion has been thoroughly detailed by Van Beuren and in our work we have not met them. In one case in which we previously had done a transfusion the patient died suddenly while being transfused at another hospital. The cause of death was not ascertained but the clinical history rather suggests acute cardiac dilatation.

The lesson to be drawn from this series is that transfusion here saved the lives of at least one-fourth of these patients. In typhoid fever with hemorrhage this should be a routine measure, using the medical or indirect method and, if possible, having a donor with acquired immunity. In purpura and severe urticaria it is almost specific. In hemorrhage and preliminary to major surgical operations upon the debilitated it is a life saving procedure.

Transfusion by the indirect method should be at the command of every practitioner of medicine. But surgeons doubtless for some time will still favor the more satisfactory types of direct transfusion.

References.

- Ottenberg, R., and Libman, E.: Blood Transfusion: Indications, Results, General Management. *Am. Jour. Med. Sc.*, 1915, cl. 36.
- Brewer, G. E., and Leggett, N. B.: Direct Blood Transfusion by Means of Paraffin-Coated Glass Tubes. *Surg., Gynec. and Obst.*, 1909, ix, 293.
- Kimpton, A. R., and Brown, J. H.: A New and Simple Method of Transfusion. *Jour. A. M. A.*, July 12, 1913, 117.
- Lindeman, Edward: Simple Syringe Transfusion with Special Cannulas. *Am. Jour. Dis. Child.*, July, 1913, 28.
- Blood Transfusion: Report of 135 Transfusions by the Syringe Cannula System. *Jour. A. M. A.*, March 28, 1914, 993.
- Blood Transfusion by the Syringe Cannula System. *Oct. 31, 1914, 1542.*
- Unger, L. J.: A New Method of Syringe Transfusion. *Jour. A. M. A.*, Feb. 13, 1915, 582.
- Satterlee, H. S., and Hooker, R. S.: The Use of Hirudin in the Transfusion of Blood. *Jour. A. M. A.*, June 6, 1914, 1781.
- Lewisohn, R.: Blood Transfusion by Citrate Method. *Surg., Gynec. and Obst.*, 1915, xxi, 37.
- Simons, Irving: Experiences with the Sodium Citrate Method of Indirect Transfusion of Blood (Lewisohn). *Jour. A. M. A.*, this issue (?), 1339.
- Berard, L., and Lumiere, A.: Technique of Transfusion of Blood. *Presse Medicale, Paris*, Sept. 2, 1915.
- Van Beuren, F. T., Jr.: *Johnson's Operative Therapeutics*, pages 318-19.

THE PHYSICIAN AND THE ADOPTION LAW IN THE STATE OF CALIFORNIA.

By STUART A. QUEEN,
Secretary Board of Charities and Corrections of the
State of California.

Nearly every physician has had at one time or another a maternity case where the mother for some reason felt that she could not retain her child. Sometimes the woman has been deserted by her husband. In other cases he is unable to work. Again she may not be married at all. In any case she must go out to work and cannot care for the baby, or earns too little to pay her baby's board and her own. In such a case what is more natural than for her to ask the physician to respond to her appeal. Somewhere in his practice he has found people who want to adopt a young child. He puts them in touch with the unfortunate mother. They secure custody of the baby either by formal relinquishment or by waiting for a year to elapse.

No law has been broken, unless the doctor has actually taken the child from its mother to the foster parents or has himself arranged for the removal.¹ Yet the very purpose of one of the laws affecting young children is entirely defeated. The State has made itself responsible (Chap. 569, Stats. 1911 and Chap. 69, Stats. 1913)² for all children for whom foster homes must be found. The purpose of these laws is two-fold: first, to prevent the giving up of children by their natural parents wherever possible in order that added burdens may not be thrust upon the community either directly or indirectly; and second, to make sure that foster homes in which dependent children are placed are of such character as to insure proper care and training for these unfortunates.

Machinery is provided under the law for supervision of the work of finding homes. Child-placing is definitely restricted to such agencies as are licensed by the State Board of Charities and Corrections. These licenses are granted only to societies which can demonstrate their ability not only to find suitable homes but to keep track of the children placed for adoption until there is no question or doubt that each child and its new home are mutually adapted. It is customary for an agent of a home-finding society to investigate carefully each applicant. If the home is satisfactory—morally, financially, physically—a child will be placed conditionally for six months or a year. During this time the agent visits the foster home to see whether the arrangement is best for all concerned. If all is well, the society gives its consent and the adoption is consummated.

There are nine organizations so licensed. They are:

- (1) Associated Charities of Oakland.
- (2) Catholic Humane Bureau, San Francisco.
- (3) Catholic Ladies' Aid Society of Alameda County, Oakland.
- (4) Children's Agency of the Associated Charities of San Francisco.
- (5) Charity Organization Society, Berkeley.
- (6) Children's Home Society of California, Los Angeles.

- (7) Eureka Benevolent Society, San Francisco.
- (8) Los Angeles Humane Society for Children.
- (9) Native Sons' and Native Daughters' Central Committee on Homeless Children, San Francisco.

The work of these organizations is investigated and supervised by the State Board of Charities and Corrections. Thus there is provided a means for seeing that proper care is given every child whose natural home fails. But actually many children are placed in foster homes without record or investigation—largely because physicians and nurses are unacquainted with the machinery which has been described.

Some, however, fear that the regularly constituted means of handling these cases will bring undesirable publicity or notoriety upon the foster parents, the mother, or the child. This may indeed, happen, but almost always it can be, and is, avoided. Frequently it is desirable to conceal the facts from neighbors and others, and this can usually be done without interfering with investigation and supervision. Always it is the welfare of the child that is uppermost in our minds and this can be best safeguarded by handling these matters through the regularly established channels.

That there is justification for so great care is evident from known cases of improper placement and even complete disappearance of children. One well-known hospital in Alameda County permitted a child to be removed by a total stranger without even recording the address to which it was taken. Home-finding involves more than the initial act. It involves responsibility for seeing that the home is a suitable place for a child, that the foster parents are able and willing to give the child the care it needs and finally that they do give the child proper care and training. This requires an expenditure of time which the average physician is not able to give. Surely he will welcome a plan which relieves him of this great responsibility and at the same time assures the prompt and proper handling of these unfortunate children.

¹ Sec. 4, Chap. 569, Stats. 1911. It is hereby made a misdemeanor for any person or persons, either as individuals or officers of any association or society, to engage in the work of placing children into homes, or the soliciting of funds therefor, in this state without a permit duly executed in writing by the state board of charities and corrections, authorizing said persons or such association or society to engage therein, or to engage in such work after any permit has been canceled.

² Sec. 1, Chap. 69, Stats. 1913. No person, association, or corporation shall hereafter maintain or conduct in this state any maternity hospital or lying-in asylum where females may be received, cared for or treated during pregnancy, or during or after delivery; or any institution, boarding house, home or other place conducted as a place for the reception and care of children, without first obtaining a license or permit therefor, in writing, from the state board of charities and corrections, such permit or license once issued to continue until revoked for cause after a hearing.

PROGRAM

THE COMMITTEE ANNOUNCES A VERY FULL PROGRAM AND NO MORE PAPERS CAN BE ACCEPTED. THE ADVANCE PROGRAM WILL BE PUBLISHED IN THE MARCH JOURNAL. LOOK FOR IT.

BOOK REVIEWS

The Operations of Surgery. (Jacobson.) Sixth edition. By R. P. Rowlands and Philip Turner. Vols. 1 and 2. Published by The Macmillan Company, New York. 1915.

This is the sixth edition of a very good operative surgery. Besides giving the usual features found in works on surgery it is replete with many matters of unusual and particular interest. Its chapters on lung surgery and wounds of the heart are particularly good. Every phase of modern surgery is dealt with in a comprehensive way; nothing seems to be too small nor overlooked; the major subjects are dealt with in a classical manner. It can be recommended as a *vade mecum*.

S. T. P.

American Illustrated Medical Dictionary (Dorland). New (8th) Edition Revised and Enlarged. A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Science, Nursing, Biology, and kindred branches; with new and elaborate tables. Eighth Revised Edition. Edited by W. A. Newman Dorland, M.D. Large octavo of 1135 pages, with 331 illustrations, 119 in colors. Containing over 1,500 more terms than the previous edition. Philadelphia and London: W. B. Saunders Company, 1915. Flexible leather, \$4.50 net; thumb index, \$5.00 net.

We have commented most favorably upon previous editions of this invaluable dictionary; the present edition is, of course, enlarged and improved. It seems almost superfluous to say that a copy ought to be in the library of every physician—especially those who write papers for publication!

Diseases of the Skin and the Eruptive Fevers.

By Jay Frank Schamberg, M. D., Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine. Third edition, revised. Octavo of 585 pages, 248 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$3.00 net.

The author has improved his book in this edition by the revision of some of the chapters on syphilis in accordance with the very latest accepted ideas, and also by the addition of some excellent photographs, and considerable amplification of the sections devoted to the exanthemata.

The full discussion of the acute eruptive fevers with the accompanying very good illustrations is a most valuable feature.

H. E. A.

SAUNDERS' CATALOG.

W. B. Saunders Company, publishers of Philadelphia and London, have just issued their 1916 eighty-four-page illustrated catalogue. It is a descriptive catalogue telling you just what you will find in their books and showing you by specimen cuts, the type of illustrations used. It is really an index to modern medical literature, describing some 300 titles, including 45 new books and new editions not in former issues. A postal sent to W. B. Saunders Company, Philadelphia, will bring you a copy.

The Clinics of John H. Murphy, M. D., at Mercy Hospital, Chicago, December 1915. Vol. IV, No. 6. Published bi-monthly by W. B. Saunders Company, Philadelphia and London.

Contents.

Leukoplakic papilloma of buccal mucosa.
Recurrent leukoplakic papilloma of buccal mucosa.
Papilloma of lip and cheek.
Congenital nasal deformity.
Carcinoma of maxillary antrum.
Congenital (thyroglossal duct) sinus of neck.
Bilateral cervical ribs.
Osteosarcoma of scapula.
Osteosarcoma of humerus, recurrent.
Cicatricial fixation of ulnar nerve in its groove sequential to ancient fracture of olecranon process.
Hypertension fracture of radius and ulna, lower third.
Extensor contracture of hands following burns.
Osteitis fibrosa cystica of phalanx of finger.
Multiple angiomas.
Biliary calculus impacted at ampulla of Vater.
Andeocarcinoma of neck of uterus.
Undescended testicle.
Congenital luxation of both hips.
Congenital luxation of hip.
Old fracture-luxation of right hip-joint.
Coxa vara (bilateral) due to status lymphaticus hypertrophicus.
Recent comminuted T-fracture in lower third of femur.
Recent fracture in lower third of femur.
Right knee: Luxation with fraying of internal semilunar cartilage and osteophyte.
Left knee: Hypertrophic osteoarthritis.
Fracture of internal semilunar cartilage.
Foreign bodies in knee-joint.
Sarcoma of popliteal space.

Syphilis a Modern Problem. William Allen Pusey, M. D. Pub. by American Medical Assn., Chicago, 1915.

In this little volume the author has been remarkably fortunate in presenting in a concise form the main facts of syphilis in its relation to society.

In the first chapters he deals with the history of the disease, both as to its origin and cause. America is shown to have been the undoubted source from which the malady was introduced into Europe. The growth of the knowledge of the then unknown disease is outlined and the stormy controversies that were waged as to its nature are sketched in statements that are illuminating. Many facts are mentioned that will be sought in vain in more pretentious volumes.

In the chapters following those on history the cause of the disease is discussed and the pathology and prognosis are touched upon. In these chapters the medical reader will meet with surprises, for since the book is ostensibly written for the educated layman it would be natural to suppose that the portion dealing with ordinary clinical facts would be trite and uninteresting to the medical man, but after reading it one must confess that the well known has been so happily stated and so interestingly blended with that which is new that even those already quite familiar with the subject will read and probably reread these chapters with much interest.

Hereditary syphilis and syphilis and marriage are each discussed in a most helpful manner.

In the chapter on prophylaxis the author advocates extensive state care of the secondary syphilis and others in a decided infectious condition. Ample and well regulated facilities should be afforded the public for antisiphilitic treatment. As to personal prophylaxis he unhesitatingly endorses the plan of providing bactericidal ointments for those who are in line for infection.

Taken by and large it may be stated that the reviewer is not acquainted with any book on the subject of syphilis in its relation to the public that can compare with this one in interest and sanity. The author is to be congratulated in having said so much in so few words. The style is positive but not dogmatic, convincing but not argumentative. After perusing the volume one is convinced that he has been in the company of a man who has something to say and who has said it well.

R. L. R.

SOCIETY REPORTS**ALAMEDA COUNTY.**

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, November 16, 1915.

In the absence of the president, the meeting was called to order by the vice-president, Dr. Hadden, and the minutes of the previous meeting read and approved.

The following program was presented:

I. Case Reports.

1. Duodenal Ulcer.
2. Cases of Chronic Disease resulting from Obscure Local Infection.
3. Tuberculous Hip-Joint Disease. Dr. R. T. Stratton.

II. Case Reports.

1. Two Cases of Injury of the Thumb. Dr. Henning Koford.

III. Fracture Records; a National Effort Toward Standardization. Dr. T. W. Huntington, San Francisco.**IV. Why Corrective Lenses often fail to give Relief in Headaches due to Eye-strain.** Dr. Roderick O'Connor.

Dr. Powell made a motion, seconded by Dr. Thomas that the Fracture Form of the American Surgical Association as presented by Dr. Huntington be given official recognition by this society and used by its members. Carried.

The secretary read a set of resolutions in regard to the death of Dr. Myra Knox which were adopted as read and ordered placed on the minutes. There being no further business the meeting adjourned.

ELMER E. BRINCKERHOFF, Secretary.

CALIFORNIA PEDIATRIC SOCIETY—NORTHERN BRANCH.

The next meeting of the California Pediatric Society (Northern Branch), will be held Thursday evening, February 24, at 8 o'clock, in the County Medical rooms in the Butler Building. The subject of discussion will be reports from the several children's and nose and throat clinics in the city on the results of tonsillectomy. Anyone interested in the subject is welcome. The following reports will be discussed:

Symposium on Tonsillectomy in Relation to Pediatrics.

Report of the clinics of the University of California: Dr. William Palmer Lucas, Dr. Albert J. Houston.

Report of the San Francisco Polyclinic: Dr. Henry Horn, Dr. H. P. Robarts.

Report of Children's Hospital: Dr. Florence M. Holsclaw, Dr. Anna Flynn.

Report of clinics of Stanford University: Dr. Edward N. Sewall, Dr. George D. Lyman.

STATE SOCIETY MEETING—FRESNO.

Minutes of meeting of General Committee (of the Fresno County Medical Society) in charge of arrangements and entertainment of the State Medical Society at Fresno, April 1916.

Committee: Drs. George H. Aiken, D. H. Trowbridge, J. R. Walker, T. M. Hayden, Kenneth J. Staniford, L. R. Willson, Harry J. Craycroft.

Minutes of meeting held December 21, 1915:

The meeting was called to order at 7:45 p. m. in the offices of Dr. George H. Aiken, with Dr. Aiken presiding.

Present: Drs. Aiken, Walker, Hayden, Willson and Staniford.

There was first an informal discussion of the work to be performed by the committee, which resulted in suggestions from the various members as to the best method of procedure for carrying on the vast amount of detail work which is before the committee of the County Society.

Upon the suggestion of Dr. Aiken, it was moved, seconded and carried that three sub-committees be created with such duties as are implied by their respective titles and together with such other duties as the chairman may deem necessary or advisable to assign to them from time to time. The following sub-committees were accordingly created.

1. Committee on Ways and Means.
2. Committee on Entertainment.
3. Committee on Printing and Communications.

Each of these sub-committees to report at every meeting of the general committee, and the general committee, in turn, to report all transactions and progress at each regular meeting of the County Society.

The chair then appointed the following members of the sub-committee:

1. Committee on Ways and Means—Dr. T. M. Hayden, Dr. J. R. Walker.
2. Committee on Entertainment—Dr. D. H. Trowbridge, Dr. H. J. Craycroft, Dr. George H. Aiken.

Committee on Printing and Communications—Dr. Kenneth Staniford, Dr. L. R. Willson.

It was moved and seconded and carried that Dr. Staniford be made secretary of the general committee to act throughout the period of its existence and to have charge of all communications relative to the work of the committee.

It was suggested that the secretary forward a communication to Dr. Jones, Secretary of the State Society, after each committee meeting, telling of the progress so far made.

Dr. Walker suggested that inquiries be made regarding the advisability and the possibility of giving a lecture open to the public on some important, common interest topic. This lecture should be given by some physician whose name is rather well known to the public, in a public meeting place such as the Municipal Auditorium. The suggestion was carried still further, as it might be possible to give a series of popular lectures, one on each evening during the time of the State Meeting.

Each of the committee members was enthusiastic over the prospects of a largely attended meeting in April and each signified his intention to do his share toward making the visit to Fresno one to be remembered. With the conditions of weather which will probably be prevailing and the highways, we may almost assuredly expect many automobile parties of those who otherwise would either not come at all or would come by train and leave after one day.

It was pointed out also that there is the opportunity not only to make the State Society meeting itself, a success, but to do something for Fresno as well.

After outlining some of the work of the various

sub-committees and after deciding to hold the next meeting of the general committee early in January at the call of the chairman, the meeting adjourned.

KENNETH J. STANIFORD,

Secretary General Committee,
Fresno Co. Med. Soc., 1915-16.

SAN JOAQUIN COUNTY.

The annual business meeting of the San Joaquin County Medical Society was held Friday evening, December 31. The members chosen to serve as the board of directors for 1916 were: Drs. R. T. McGurk, F. P. Clark, C. R. Harry, H. J. Bolinger, G. W. Walker, L. Dozier, L. R. Johnson, J. D. Dameron and Dewey R. Powell. From these Dr. Fred Clark was elected president and Dr. Dewey Powell secretary. Dr. Charles R. Harry was elected delegate to the State Society, with Dr. Dewey R. Powell as alternate. The secretary's report for the year showed a membership of sixty-six members in good standing.

DEWEY R. POWELL, Secretary.

SANTA BARBARA COUNTY.

Report of meeting, December 13, 1915.

The Santa Barbara County Medical Society met in regular monthly session at the Arlington Hotel on Monday, December 13, 1915. The meeting was called to order by the President, Dr. William H. Flint, at 8 p. m., the Secretary, Dr. Barry, at his desk. Present: Drs. Barry, Campbell, Flint, C. S. Stoddard, T. A. Stoddard, and Wells, a total of six members—not guests and no visitors. The minutes of the preceding session (a joint meeting with the Ventura County Medical Society) were read and approved. The chair then called for clinical cases.

Dr. Wells described an operation for the opening and draining of the antrum of Highmore. A trocar of special construction is first passed into the antrum and the opening enlarged to an aperture of about three-eighths of an inch in diameter, thus securing immediate and permanent drainage.

Dr. Barry described an interesting and important case of "cut throat" coming under his observation and care. The wound was sub-mental (?) and consisted of a clean razor cut deep into the tissues of the neck, extending down quite to the anterior wall of pharynx; it was about two inches in length, and located between the thyroid cartilages and the hyoid bone. The patient was admirably controlled by subcutaneous injection of hyosine (gr. 1/100), morphia (gr. 1/4), atropine (gr. 1/200), and the wound carefully closed with a double row of oo catgut sutures, superficial and deep. The result was perfect, and by first intention throughout, without a particle of septic infection. The final scar will be thin and small.

The President next called for the paper and discussion of the evening: "Present orthopedic surgery at the military hospitals of France and England," by Dr. T. A. Stoddard, recently returned from Paris and Liverpool. This report was listened to with the closest attention, being a revelation to many of what the French, and particularly the English (who lead in this specialty) orthopedic surgeons are doing for the crippled feet and limbs of their injured soldiers.

The names of Dr. Horace F. Pierce of Santa Barbara, and Dr. Fred A. Brown of Lompoc were presented for membership and ordered referred to the Board of Censors for report and recommendation.

Meeting adjourned.

WILLIAM T. BARRY, Secretary.

X-RAY SOCIETY.

The Pacific Coast Roentgen Ray Society, which was organized in June, 1915, had a meeting, held at the Hotel Plaza, on December 11, consisting of business sessions in the morning and the following papers in the afternoon:

Fifteen Years' Experience in the Treatment of Breast Cancers, by Dr. Albert Soiland of Los Angeles.

Recent Observations on Deep Therapy, by Dr. Wm. B. Bowman of Los Angeles.

Bone Tumors, by Dr. W. W. Boardman.

Demonstration of Plates, by Dr. Geo. L. Painter and Dr. Howard E. Ruggles.

We would appreciate it if you could include an account of this meeting in the Society Reports of an early issue.

HOWARD E. RUGGLES, Secretary.

LOS ANGELES COUNTY.

Eye and Ear Section.

Regular meeting of the Eye and Ear Section was held in the office of Dr. A. L. Kelsey, Brockman Building, on November 1, 1915. Attendance: Drs. Montgomery, F. L. Rogers, Sweet, Stephenson, True, Detling, Reynolds, Graham, Kyle, Griffith, Old, Bullard, Dudley, Fleming, Hastings, Harris, Kelsey, Lund, G. W. McCoy, R. W. Miller, Stivers. Visitors: Drs. Shultz and Rochester.

On roll-call the following cases were reported:

Dr. Hastings—Removal of fragments of eggshell from the larynx of a child; child had had croup for a week, gradually got worse, persistent dyspnea. Father reported that child had eaten soft-boiled egg and had choked. Child was turned upside down and efforts made to remove the condition, but the child grew worse as the days went on. On examination could not see in the larynx with mirror; father did not want operation done, but the child got worse and tracheotomy was done, then a tube was put in the throat and the eggshell seen and removed with forceps; the tracheal tube was left in ten days. Eggshell specimens were shown.

Dr. Harris reported case of retained nerve sheath in the left eye of a girl; vision is good except for astigmatism. The supra temporal vein is very much uncovered.

Second case, of voluntary ability to turn left eye outward. The entire family has defective eyesight. Sister of 16 has amblyopia—this condition improved under glasses; has 10% of esophoria which will eventually necessitate operation.

Dr. R. W. Miller asked what operation is contemplated. Answer—Advancement and tenotomy of the external rectus.

Dr. Dudley asked was the vision of nerve case affected? Answer—It is almost normal.

Dr. R. W. Miller asked was the form field taken? Answer—No.

Dr. A. L. Kelsey made a subsidiary report to the traumatic case reported at the last meeting.

Dr. G. W. McCoy reported a double frontal external operation. The case had pain for three months—removed all the turbinates. On examination X-ray was negative; Wassermann negative; The test negative. Probe went freely into frontals. Transillumination gave a shadow. Right side was done first, pus was found under pressure; left side done subsequently. Deformity is unnecessary as I have shown in a dozen cases. Discussion by Drs. Bullard, Griffith and Hastings. The latter said: "I do not believe that Dr. McCoy has entirely obliterated the frontal in the case reported."

Dr. Lund—Q. Does Dr. McCoy enlarge the frontal nasal duct and then irrigate? Answer—Yes, as freely as possible.

Dr. Montgomery reported case and specimen of papilloma of the larynx in a patient of 55, first

seen when the patient was 51 when removal was advised. Patient did not have the operation. Saw him again four years later with a large growth on the left vocal cord extending far backwards and frontwards and up from the true cords. Removed by snare a small piece and two weeks later removed second piece, a small portion remains on the anterior commissure.

Second case also a papilloma of the larynx in a child.

Third case specimen of nasal polyp removed by sickle knife from the posterior tip of the middle turbinate. This polyp measured 3 in. by 1½ in. by ¼ in.

Fourth case autopsy finding of osteosarcoma at County Hospital. This tumor growing from the anterior fossa of the skull. Discussion: Dr. Kyle and Dr. R. W. Miller.

Dr. Hastings also reported case operated on for papilloma, 15 years afterwards the patient had carcinoma; many laryngologists saw the case during the interim but none of them diagnosed it carcinoma.

Dr. Fleming contrasted direct and indirect laryngoscopy. He predicted that the indirect method of operation is apt to disappear entirely.

Dr. Stivers reported a case for plastic operation on the nose and showed plaster cast of same.

Discussion: Dr. Kyle—Q. Does cartilage unite to cartilage? Ans. This case has not been operated on but in three other cases I have obtained satisfactory results.

Dr. Shuck of New York stated that he had seen Dr. Carter operate on several cases in the New York Eye and Ear Hospital; the house staff did not at that time have a high opinion of the results of Dr. Carter's operations on noses because several pieces of bone came out after transplantation. I, myself, saw several cases result unsuccessfully where bone came out. The technic was by inserting bone graft in the nose through an external incision into the section of the nose.

Dr. Stivers said Dr. Carter's new technic is to insert the bone graft into place through an internal incision made under the mucous membrane and skin in the external.

Dr. Stephenson reported a case of interstitial keratitis with Hutchinson teeth, opacity of the cornea, now taking atoxyl. Atropine to keep the pupil dilated so she has some vision around the central corneal opacity. Dr. Bullard; discussion; Neo-salvarsan is used with success in these cases; in one case 8 doses of neo-salvarsan with recovery; it was given intravenously.

Dr. Detling reported case of adhesion of the palate to the pharyngeal walls. Wassermann test was negative; patient is now under anti-syphilitic treatment.

Second case of healed labyrinthitis. There are many such cases running around, many show symptoms similar to bilious attacks.

Dr. Lund, in discussion: Had atresia case similar to the one reported by Dr. Detling. I dissected the palate free, then had dentist make a plate and by rubber tubes fastened to it held the palate away and from the pharynx walls with success.

Dr. Sweet of Long Beach reported a case of papilloma.

New Business: Dr. Dudley asked for adoption of the following amendments to Article 1, Section 4, Paragraph 4:

An Executive Committee composed of the Chairman, Vice-Chairman, Secretary and one member selected by the Chairman.

Amendment to Article II, Section 4:

The Chairman, Vice-Chairman, Secretary and one member appointed by the Chairman shall constitute the Executive Committee.

The application of Dr. Tholen was referred to the proper committee.

SAN FRANCISCO COUNTY. 1916 OFFICERS.

At the annual meeting of the San Francisco County Medical Society, held on December 14th, the following officers were elected for 1916:

President, Cullen F. Welty; first vice-president, F. W. Birch; second vice-president, H. W. Gibbons; secretary-treasurer, René Bine; librarian, Leo Eloesser.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of November, 1915, the following meetings were held:

Section on Medicine, Tuesday, Nov. 2d.

1. Consideration of some neurological disorders of children. Harold Wright.
2. Lues of the lungs. Hans Lissner.
3. Roentgenograms of pulmonary lues. H. F. Ruggles. Discussed by G. H. Evans, H. B. Graham and H. Lissner.

General Meeting Tuesday, Nov. 9th.

LANE HOSPITAL CLINICAL EVENING.

1. Nephritis in acute infections. E. C. Dickson.
2. Nephritis in arteriosclerosis. H. P. Hill.
3. The importance of functional tests in the diagnosis of nephritis. Thomas Addis.
4. The pathology of (a) infectious nephritis, (b) arteriosclerotic nephritis. W. Ophüls.
5. The surgical treatment of nephritis. R. L. Rigdon.
6. The medical treatment of nephritis. R. L. Wilbur.

Section on Surgery, Tuesday, Nov. 16th.

1. Presentation of cases. P. L. Campiche. (a) Angular deformity of femur, with much shortening; treated by linear osteotomy; also ankylosis of elbow corrected by a resection with arthroplasty. (b) Transverse fracture of patella, wired with silver wire. (c) Fracture of humerus with muscular interposition. Muscles dissected and fragments wired. (d) Forward dislocation of the head. Etiology probably syphilis. Cases discussed by J. T. Watkins.
2. Presentation of case of renal calculi. M. Krotoszyner.
3. Personal experiences with X-rays in gynecologic practice. H. J. Kreutzmann.
4. The X-ray in the treatment of hyperthyroidism. H. E. Ruggles. Discussed by W. W. Boardman, Saxton Pope, H. J. Kreutzmann and H. E. Ruggles.

Section on Eye, Ear, Nose and Throat, Tuesday, Nov. 23d.

1. Presentation of cases by A. Green, G. H. Willcutt, W. S. Franklin and L. A. Smith.
2. The relation of iritis and iridocyclitis to constitutional diseases. A. B. McKee.
3. Infantile blennorrhoeas; their differential diagnosis and treatment. W. S. Franklin. Discussed by A. B. McKee, K. Pischel, M. W. Fredrick, H. Barkan and W. S. Franklin.
4. Some positive eye values in brain tumors. Hans Barkan. Discussed by W. S. Franklin, A. Green, W. F. Schaller, K. Pischel and H. Barkan.
5. The ocular symptoms of tabes. W. F. Blake. Discussed by Hans Lissner, Hans Barkan, W. F. Schaller and W. F. Blake.

Section on Urology, Tuesday, Nov. 30th.

1. Difficulties encountered in the diagnosis of some urinary conditions. R. L. Rigdon. Discussed

by Frank Hinman, M. Krotoszyner, J. V. Leonard and Henry Meyer.

2. Large cysts in the bladder. Henry Meyer. Discussed by R. L. Rigdon, A. B. Grosse and Henry Meyer.
3. Serodiagnosis of gonorrhea. M. Krotoszyner. Discussed by A. B. Grosse, J. C. Spencer, J. V. Leonard, M. Wolff, R. L. Rigdon, E. E. Johnson and M. Krotoszyner.
4. Second thoughts about salvarsan therapy. W. E. Stevens. Discussed by M. Krotoszyner.
5. Report of a case of vesical calculi. J. C. Spencer. Discussed by M. Krotoszyner.

During the month of December, 1915, the following meetings were held:

Tuesday, December 7th.

ST. LUKE'S HOSPITAL CLINICAL EVENING.

1. Demonstration of Cases of Enlarged Spleens. Wm. Kenney. (By courtesy of B. Stone and J. M. Macdonald.) Discussed by H. C. Moffitt, A. Newman and W. Kenney.
2. Complete Removal of Parotid Gland with Conservation of the Facial Nerve. J. Henry Barbat. Discussed by A. Newman and H. Henry Barbat.
3. Splenectomy for Pernicious Anemia; Report of Case. Harry M. Sherman. Discussed by H. C. Moffitt, P. H. Pierson and Harry M. Sherman.
4. Linitis Plastica; with Presentation of Specimen. G. M. Barrett.
5. Report of a Medical Case (retained Murphy button for ten years). H. P. Hill. Discussed by J. Henry Barbat.
6. Instructive and Interesting X-Ray Plates. G. J. McChesney, H. E. Ruggles.

Tuesday, December 14th.

ANNUAL MEETING.

Presidential Address by Herbert C. Moffitt, M. D.

It is a privilege of your retiring president to give the Society his views, more or less personal, of policies affecting the Society and the profession at large. My predecessor, Dr. O'Neill, has had some of his valuable suggestions embodied this year in the Constitution and By-laws recently adopted by the Society. From the reports of the Executive Committee and the Secretary you will learn of work that has been done and of plans that have not yet matured. Any discussion of the future of this Society, as of any collection of medical men, must be based upon a realization of certain tendencies in medicine, and certain forces in society which are leading to a readjustment of the physician's activities in the community.

The man of ancient medicine spoke with the authority of a philosopher and priest as well as physician. In the Middle Ages, with the decline of medicine, ignorance and mysticism deservedly weakened his position. In both epochs, however, his relation to his patient was a personal, intimate one—service to the individual was everything, service to the community hardly recognized. With the development of scientific medicine, with the work of Pasteur and the study of infectious diseases new problems of preventive medicine and sanitation demanded the help of the physician in their solution. The community, the individual and the physician have all benefited by the change.

We have learned more fully that there are many things in medicine besides the giving of drugs, we have realized that our duties do not end with prescribing for the patient; we have been convinced that, even with the individual, community of service is demanded by his best interests. Socialism in place of individualism tends to dominate certain branches of medicine. There is danger in

this changed relation of doctor and patient of losing the great power for good of the personal factor in medicine, of losing touch with the old art and craft of the profession, of losing sight of the psychical as well as the physical forces which make for the best healing.

There is danger, also, in the rapid rush of modern events of being hurried to extremes, or whirled on aimless tangents. There was never more need by the physician of a sane general and medical education, of a foundation strengthened by mutual support, of the stability which bases on sound judgment and experience. It is a mistake to think that reforms in medicine or in the relation of the physician to his fellows, to his patients or to the community, will come through legislation. The public has been ready to recognize the achievements of modern medicine and it is ready to be guided by the profession if the profession speaks with unanimity and authority. Too often physicians give half-baked opinions, or foolish interviews, or malicious criticism of the work of others, without considering the effect upon the valuation of medicine and medical men by the individual or by the community. We are all too prone to give opinions and advice without proper study and reflection. Is it any wonder that people doubt, that they lose faith in medicine, that they seek help and faith elsewhere when physicians so often show little respect for each other, when varying opinions are given by different men on wholly insufficient data and study, when patients are rushed into dangerous new treatments or operations without proper realization of either danger or end results to be expected? There is need all over America at the present time of wise conservatism, there has been too much emotion and too little reason in many of our new ventures; there is great need of it in our own profession whose members too quickly adopt new remedies, new literature, new schemes, new operations without due reflection and discussion.

There is danger that **specialism** may narrow so far as to obstruct clear view of our profession into its fields of individual and public effort. We all realize the tremendous conquests that have been made in special fields. We all recognize the need of the specialist in our modern life, and we feel that much of our work in the future will be done by groups of specialists laboring together for the common good of individuals or communities. Moreover, we shall always need the stimulus of workers who labor in pure research far from the active front of our profession. And yet there is danger that the specialist fix his attention too closely upon one phase of a process or disease rather than upon the man or woman who is sick. There is danger of exploiting the patient for the specialty. There is danger that work be done to enhance the prestige of specialties rather than medicine, that the patient be studied only with the specialty in mind, that results be judged from effects produced on local processes rather than from changes brought about in the physical and mental make-up of the man. Narrow specialism tends to obscure proper judgment of results, to encourage immature publication of methods of treatment and to lead to undue reactions in both profession and public. We have magnified specialties too much in our schemes of education and, I think, in our present methods of conducting society discussions. We should bring back the specialists more frequently to our general meetings and frankly try to judge of the limits to which specialism should develop. We should hear more of the fundamental reasons that decide for a special operation or method of treatment and know more of the end results of such procedures before they are widely tried or brought before the public.

Fortunately, with all the faults inherent in its

members as sons of men, the medical profession has clung fast to certain high principles and ideals. There is no collection of men that so honestly criticizes its own failures, so earnestly endeavors to fit itself better for public and private service, so unselfishly devotes itself to the prevention or amelioration of some of the world's worst evils. If anyone has lost faith in the high aims of medicine or has doubted that our profession, in the mass, is unstirred by the best ideals, let him read the recent inspiring address of Dr. S. J. Meltzer on "The Mission of Medical Science and Medical Men."

How can we best raise the standards of our **local** profession, make of its members wiser and saner men, increase its usefulness to medicine and the community?

1. I think it is absolutely necessary to have a suitable dignified home for the Society. Not a few rooms in an office building but a **home**. Suitable accommodations should be provided for general meetings and for special meetings and demonstrations, as well as for our growing library.

2. I would advocate greater centralization of effort among medical men of the city. All good men in the profession should be brought into the Society. Cults and pathies can gradually be modified by proper education and fair treatment. Think of the educational possibilities if there were one great medical institution in San Francisco backed by a united profession! The various hospitals of the community could be made part of the central scheme, and various groups of men could contribute to the education of each other and the community without suspicion of ulterior motives.

3. I would suggest that we have more general meetings of the Society. Meetings of specialists could be held in different rooms, or at different times, or in connection with the general meetings. There would be, of course, no thought of limiting the work in special fields or of losing the inspiration from special workers in our own or distant communities. Clinical and pathological demonstrations are often more interesting and instructive than formal papers and some such scheme as inaugurated by the present Executive Committee might well be continued. It is not desirable that all papers read in the Society should be published. Suitable rooms should be provided for the demonstration of patients and pathological specimens. It would be of great service to the general profession if frequent opportunity could be given to compare clinical findings with the results given in operative or autopsy reports. Members should be encouraged to present cases or problems to the Society for discussion.

4. Meetings with civic or other bodies interested in public welfare and in public health should, if possible, be arranged. Only questions of definite import which have the backing of a united profession should be discussed at these meetings. Aimless discussion of fads, of untried methods of treatment, of foolish legislation should be tabooed. Honest criticism of medical men and medical methods from laymen should be welcomed. The County Society should come to be regarded as an authority to which to appeal on matters concerning preventive and curative medicine. Appeals for publicity to individual members should with propriety be referred to the Society's Public Health Committee.

There may be a possibility under my able successor of meeting our material needs. Is there not also a possibility of some adjustment of personal differences, of the abolition of unkindly criticism and gossip, of some union of effort for the advancement of the dignity and usefulness of our profession, and for the establishment of some authoritative standard of medicine in our midst?

REPORT OF THE SECRETARY-TREASURER.

As Secretary I beg leave to submit the following report for the year 1915; that is, from December 7, 1914, to December 14, 1915.

The total number of members for whom we have paid assessments to the State Society is 589 as against 597 last year. Eight of the members reported have died, making our present membership 581.

Twenty-five members were dropped March 1st for non-payment of dues.

In order to entertain the American Medical Association in San Francisco during June, 1915, funds were raised, for the most part, among our members. After paying all bills, the balance was given us by the A. M. A. Committee of local men.

In accordance with our usual custom, the accounts have been audited from July 1, 1914, to July 1, 1915, by a certified accountant.

The detailed financial statement follows:

FINANCIAL STATEMENT.

Balance on hand December 8, 1914.....\$ 1,001.30

Receipts.

Dues	\$8,095.10
Physicians' Relief Fund—	
Interest on bonds, 5 Pac. Tel. & Tel.,	
5 Spring Valley Water.....	450.00
Rental of Library	75.00
Repayment on binding, phones, etc.,	10.60
A. M. A. Fund.....	1,558.31—
	<u>\$10,189.01</u>
	\$11,190.31

Disbursements.

Library—	
Binding	\$ 222.65
Subscriptions and supplies.....	524.27
Improvements: Lights, clock, screen,	
etc.	189.55
Medical Society of California—	
Assessment	3,492.00
One-half rent in lieu exchanges....	180.00
Rent	1,200.00
Salaries	1,380.00
Printing	293.25
Stationery (including stamps).....	310.94
Telephone	139.35
Kohler & Chase (rental of hall).....	15.00
Towel service	16.50
Water and paper cups.....	28.25
Dues to Chamber of Commerce and	
San Francisco Housing Commission..	70.00
Physicians' Relief Fund.....	144.00
Flowers, etc., deceased members.....	22.90
Certified accountant	50.00
Sundries (insurance premiums, office	
supplies, rental safe deposit box,	
etc.)	68.25
Christmas present (Butler Building	
employees) 1914.....	10.00
Operating lantern	32.50
A. M. A. fund.....	1,558.31—
	<u>\$10,247.72</u>
Balance December, 14, 1915.....	\$942.59

The following bills remain to be paid:

Progressive Medicine, 1915.....	\$ 13.00
Water and towel service.....	2.50
Telephone (November and December)	
about	20.00
State Society (1 new member).....	6.00
Operating lantern	2.50
Two "Handy Pad" calendars.....	1.00
Christmas present (Butler Building em-	
ployees and postman)	15.00—
December rent of library.....	100.00
Salaries for December.....	115.00—
Subscriptions to foreign journals (about).	
	<u>380.00</u>
Total	<u>\$655.00</u>
Balance December, 14, 1915.....	\$942.59
Amount due (approximate).....	655.00
	<u>\$287.59</u>

Surplus

The Society now has the following:

Bonds: 5 Pac. Tel. & Tel., 5 Spring	
Valley Water	\$10,000.00
Cash: A. M. A. fund.....	1,558.31
Interest on bonds (Savings Union)...	860.83—
	<u>\$12,419.14</u>

Incidentally, the Society is deeply indebted to D. Appleton & Company, and J. B. Lippincott Company, who have, through the kind efforts of their local representatives, donated to the Society the books which they had on display in the Emergency Hospital of the Panama-Pacific International Exposition. These books will be shortly released from

the Exposition and will then appear on our shelves. Respectfully submitted,

RENÉ BINE, Secretary.

REPORT OF LIBRARIAN.

To the President and Members of the San Francisco County Medical Society—Gentlemen:

During the past year we have purchased. 4 vols. Received from the California State Journal

of Medicine	105 "
By gift	162 "
Bound by the Society	202 "

Total

473 "

We are receiving regularly 173 journals. This shows a slight falling off from last year, due to the discontinuance of some of the foreign publications. Five new journals have been added to our list.

Disbursements—

Binding	\$222.65
Subscription and supplies.....	524.27

\$746.92

In the library drawer, collected from fines, telephones, etc., there are \$38.00.

LEO ELOESSER, Librarian.

REPORT OF THE EXECUTIVE COMMITTEE.

To the Board of Directors:

The Executive Committee wishes to submit the following report:

This committee has met nine times during the year, and while the Board of Directors has referred much of the business of the Society to this committee for special investigation, only a few transactions are here especially mentioned.

First—During the early part of this year the epidemic of diphtheria in North Beach appeared to be getting past the control of the health officers and their staff. It was then that this committee, after consultation with the health officers, arranged to have on February 9, 1915, a joint meeting of the County Medical Society and the Board of Health, and invited to this meeting the Board of Education, Board of Supervisors, Board of Public Works, Civic League, Chamber of Commerce and Commonwealth Club, all of this city, to discuss ways and means for controlling this epidemic. While only one of the Board of Supervisors responded to the invitation, and only Superintendent Roncovieri and Miss Regan of the Board of Education, Mr. Judell of the Board of Public Works and Mrs. Graupner of the Civic League accepted; yet the Board of Supervisors responded to a petition to have the nursing force under the health officer increased to such an extent that it was possible to handle the situation. It is hoped that this is the beginning of a definite policy in this city to have the County Medical Society stand as an advisory board in matters of public health.

Second—In January this committee opened negotiations with the San Francisco Chamber of Commerce and the Commonwealth Club to interest these bodies jointly with the County Medical Society in matters of public health. It was found physically impossible to hold joint meetings, but both organizations were very much interested in the idea; and in order to affiliate as closely as possible, the president of each of these organizations asked President Moffitt of the County Medical Society to appoint the chairman of the medical committee of each of these organizations. Dr. R. W. Wilbur was appointed chairman of the Public Health section of the Commonwealth Club, and Dr. William Dorr, chairman of the Health Committee of the Chamber of Commerce. In June the Commonwealth Club gave over one of its regular meetings to the discussion of county hospitals in California. The Chamber of Commerce has given the Board of Directors to understand that

it will promote any plan the Society will develop that will benefit the public health. It is believed that these affiliations should be carefully fostered in the future.

Third—The Board of Directors decided that the Constitution and By-laws of the San Francisco County Medical Society were inadequate for the present needs, and instructed the Executive Committee to reconstruct them in order to make the Society more representative, more democratic, less unwieldy, and more permanent in its organization. To this end the new by-laws (which have been adopted by the Society) provide for the election of the president and other officers by the Society at large; that matters affecting the general policy of the Society be referred to the general Society; that the business of the Society be conducted by fewer committees; and that the members of the Board of Directors be elected for three years, one-third vacating the office each year.

Fourth—The proposition concerning the so-called Medical Syndicate Building was referred to this committee and discussed in conference with the chairman of the Finance Committee. After careful consideration the Executive Committee recommended to the Board of Directors that on completion of such a building, the County Medical Society should occupy space in the same at a nominal rent, but that the Society shall not persuade its members to invest in these bonds as we have no way of estimating the probable outcome of such an undertaking. The committee believes that if the Society should promote this affair, it would be morally responsible, even though not legally responsible for its outcome.

Fifth—At the April meeting of the Board of Directors, this committee called the board's attention to the fact that there are 600 members of the medical profession in the County of San Francisco who are not members of the County Medical Society. The committee recommended that the Committee on Admissions be instructed to prepare a list of the non-members who would be acceptable to this Society; that each month at least twenty-five of these names be most carefully considered, and those found satisfactory be invited to become members of this Society; that the Committee of Admissions obtain an interview with the physicians invited in order to persuade them to become members; that the Committee on Admissions be asked for a monthly report on the advance of this work, and that the men so invited be sent five consecutive monthly programs. Up to date the Board of Directors has received no report as to the progress of this work.

Sixth—In order to make the County Medical programs fit the needs of physicians doing general practice, it was decided that there should be fewer set papers and more demonstrations of clinical material. In order to establish the education value of this method, it was considered most feasible, in the beginning at any rate, to obtain the assistance of the staffs of the various hospitals throughout the city. As the material in these quarters is more abundant, the facilities for working up the cases excellent, it was felt that the various hospitals would take considerable pride in producing a program of value; and it was recommended to the board that the hospitals accepting our invitation be given an annual meeting, at which patients would be demonstrated, cases reported and pathological material shown. That this method has been a success up to date, is shown by the packed houses at all of the hospital evenings.

It is believed that this method will make clear to the minds of many of our medical men the importance of conserving their clinical material and demonstrating the same to the Society. It is hoped that the future administrations will follow out some such plan, unless a method is developed for securing clinical material for pro-

grams which will better meet the needs of the general practitioner.

The work of this committee this year has made it clear that the greatest fault of the Society is the lack of a definite outline to its policy. With the annual change of officers come new enthusiasms, new ideas and new aims, most of which die with the administration. Perhaps this fault might be corrected if the President-elect would outline in an inaugural address the plans which he expects to put into effect for the coming year, in order that the members of the Society, the Board of Directors, and the committees could all work with a definite aim. At the close of the year, if the President would call attention to both the faults and the virtues of his schemes, and pass on to the next administration all the plans which have not been completed, with a discussion as to how they may be completed and the expected results, this would materially improve the Society.

To this end, this committee respectfully requests the President-elect to consider the feasibility of such a plan.

Respectfully submitted,

HAROLD BRUNN,
RAY LYMAN WILBUR,
FAYETTE WATT BIRTCH, Chairman.

REPORT OF THE MILK COMMISSION.

The Milk Commission of the San Francisco County Medical Society consists of Dr. Adelaide Brown, President; Dr. E. C. Fleischner, Secretary, and Drs. Blum, Gibbons, Yerington and Mr. Nathan Moran.

Since December, 1914, eleven regular meetings have been held. At one meeting no quorum was present.

No new dairy has been certified this year. The dairies supplying milk are:

	Quarts.		
Timm	1548	Sacramento	108
		Dixon	48
Hutton	896	Stockton	57
		Richmond	18
		Dixon	96
		Crockett	2
Sleepy Hollow.....	1458	San Rafael	120
		Sausalito	53
		Mill Valley	37
		Belvedere	14
San Ramon.....	438		553
	4340		
	553		
	3687	locally	

The Southern Pacific boats and trains are also supplied from the Dixon dairies.

The San Ramon dairy has recently been leased by Mr. Timm and through it we hope to be able to bring in certified bulk milk for use in hospitals.

Under the City Board of Health's inspection Mr. Collins of San Leandro has been furnishing "inspected milk" in bulk for the use of hospitals, where milk is served uncooked to patients and nurses. Such milk is used at Lane and Mt. Zion Hospitals, but the matter of educating managements of hospitals to a public health measure which adds to the cost of the maintenance is very slow and difficult. Your commission feels that this work can be more vigorously pursued by them when one of its own dairies furnishes the supply, and if as physicians you will demand it.

During the year monthly inspections have been made by the commission's inspector of the conditions under which milk is handled in San Fran-

ciseo. The privilege of selling certified milk has been taken from one distributor for continuous failure to keep the bottles iced.

The subject of the health of the employees has been considered several times during the year. The typhoid carrier, the diphtheria carrier and streptococcic sore throat are menaces to a milk supply. On the other hand the help on a dairy is a shifting matter and a rigid and thorough medical examination at the frequent intervals necessary to **exclude** these cases would add enormously to the cost of production, hence to the cost of the consumer. Up to date we have given careful instructions to the owners to report **at once** any case of sickness on the dairy or in the town and to isolate the sick person, thus making the owner apprehensive rather than relying too much on the commission's examinations.

This course has resulted in a telephonic report to us of a case of smallpox in Dixon last winter, when we ordered the employees on the dairy quarantined from the town and vaccinated. No further case in the town came down, so that in fourteen days the quarantine was lifted. In a second dairy the proprietor phoned at 3 a. m. to your Secretary and President in regard to a case of measles in the foreman's family. The foreman was directed to clean up thoroughly and eat and sleep for three weeks away from home and the other children were sent off the ranch. No second case resulted.

The question of health of employees is one of our most urgent problems and your commission will cordially receive any advice in its solution.

The American Association of Medical Milk Commissions met in San Francisco in June. They were entertained by the Alameda County and the San Francisco County Medical Milk Commissions and held their sessions at the University of California and at the Civic Center in San Francisco. The meetings were a source of profit to your commission, but the personal acquaintance with others who have taken up this problem for their communities counted far more.

The University of California continues to do the chemical and bacteriological work for the commission as well as the semi-monthly inspections of the dairies and the semi-annual tuberculin tests.

The last semi-annual tuberculin test is as follows:

March, 1915.	Cows Tested	Condemned
Sleepy Hollow.....	298	10
May, 1915.		
Hutton Bros.	204	7
August, 1915.		
Timm	350	7
San Ramon	141	1
	993	25

Less than 2.5% reactors, ordinary herd 40 to 60%. The intradermal and the subcutaneous tests are used alternately; each test seems to eliminate certain animals not reacting to the previous test. All additions to the herd are submitted to the subcutaneous test.

You will realize the cost of certified milk is eternal vigilance on the part of your commission. For the eleven months beginning January 1, 1915, 88 chemical tests and 93 bacteriological tests have been made.

Fat was found nine times below 3.5, ranging from 3.3 to 3.45 and five times the bacteriological test was found above 10,000 ranging up to 22,000. Each dairy offended once and one twice in the year. The counts average below 5,000, many times running below 2,000 per ec. When average milk of excellent quality ranges from 50,000 to 100,000 you realize that a good technique is carried on daily at your dairies.

The tax of 50c per thousand eaps finances the

commission. The year 1914 closed with a balance of \$200.47 and on December 1, 1915, the books show a balance of \$115.30 with outstanding bills \$82.00, making our total assets \$197.30.

Respectfully submitted,

ADELAIDE BROWN, President.

Officers for 1916.

President

CULLEN F WELTY

1st Vice-President

F. W. BIRTCH

Secretary-Treasurer

RENÉ BINE

2nd Vice-President

H. W. GIBBONS

Librarian and Curator

LEO ELOESSER

Board of Directors

1. Birtch, F. W. St. Luke's Hospital
2. Carpenter, F. B. 209 Post Street
3. Draper, A. L. 126 Stockton Street
4. Ebright, G. E. 209 Post Street
5. Giannini, A. H.
.... Bank of Italy, Market and Mason Streets
6. Graham, H. B. 209 Post Street
7. Graves, J. H. 987 Valencia Street
8. Hill, H. P. 177 Post Street
9. Horn, Henry. 209 Post Street
10. Jones, P. M. 135 Stockton Street
11. Kenyon, C. G. 291 Sutter Street
12. Lucas, W. P. University Hospital
13. Maher, T. D. 16th and Mission Streets
14. McChesney, G. J. 350 Post Street
15. Morrow, H. T. 135 Stockton Street
16. Ophüls, Wm. Lane Hospital
17. Porter, L. 240 Stockton Street
18. Ryfkogel, H. A. L. 162 Post Street
19. Smith, R. K. 391 Sutter Street
20. Tait, F. D. 135 Stockton Street
21. Wymore, W. W. 86 Post Street

Executive Committee

ARTHUR FISHER, Chairman

John H. Graves

Saxton Pope

The San Francisco Polyclinic Clinical Evening.

Tuesday, December 21, 1915.

1. Case Recording with Lantern Slides. H. D'Arcy Power.
2. Modification of the Lane Plate in Fractures of the Jaw. C. G. Levison. Discussed by S. Hyman, G. H. Taubles and J. T. Watkins.
3. Demonstration of Cases of Trachoma Treated with Carbon Dioxide Snow. A. S. Green.
4. Diagnosis of Abdominal Tumor. P. K. Brown.
5. Relation of Certain General Nutritive Disturbances to the Development of Sterility in Women. A. J. Lartigau.
6. Ano-Rectal Colonic Symptoms and Conditions arising from Genito-Urinary Diseases, and vice versa. A. J. Zobel.

Eye, Ear, Nose and Throat Section.

Tuesday, December 28th.

1. Demonstration of Case of Labyrinthine Fistula. K. Pischel. Discussed by G. P. Wintermute, H. Horn, C. F. Welty, T. G. Inman, H. G. Graham and K. Pischel.
2. Routes of Infection in Tuberculosis. W. Ophüls. Discussed by C. F. Welty, J. J. Kingwell, H. Horn, J. von Werthen, H. S. Moore, H. B. Graham and W. Ophüls.
3. Tuberculosis in Children; its Relation to the Eye, Ear, Nose and Throat. Discussed by A. S. Green, H. B. Graham, K. Pischel, W. P. Lucas and W. F. Blake.
4. Surgery of the Glands of the Neck. B. S. Stevens.

Dr. Hans Barkan was elected Chairman, and Dr. A. S. Green Secretary for 1916.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Euresol Pro Capillis.—Euresol (see New and Nonofficial Remedies, 1915, p. 268) perfumed to render it suitable for scalp lotions. Merck & Co., New York (Jour. A. M. A., Dec. 4, 1915, p. 2009).

Pollen Extract (Pollen Vaccine).—A solution of pollen protein. It is used for the relief or prophylaxis of a common type of hay fever (pollinosis). Before using it the patient's susceptibility and tolerance should be determined. Treatment with pollen extract has seemed to give relief in some cases.

Hay Fever Vaccine, Mulford (Autumnal).—Pollen extract prepared from ragweed. Marketed in packages of four syringes containing, respectively, 0.0025 mg., 0.005 mg., 0.01 mg. and 0.02 mg. of pollen protein. Also in separate syringes containing 0.02 mg. pollen protein. The H. K. Mulford Co., Philadelphia, Pa. (Jour. A. M. A., Dec. 4, 1915, p. 2009).

Mercuric Succinimide, Merck.—A non-proprietary brand of mercuric succinimide admitted to New and Nonofficial Remedies. Merck & Co., New York (Jour. A. M. A., Dec. 4, 1915, p. 2009).

Morphine Meconate, Merck.—A non-proprietary brand of morphine meconate admitted to New and Nonofficial Remedies. Merck & Co., New York (Jour. A. M. A., Dec. 4, 1915, p. 2009).

Swan's Staphylococcus Bacterin (No. 37).—Marketed in packages of six 1 cc. vials and in 20 cc. vials. Swan-Myers Company, Indianapolis, Ind.

Swan's Streptococcus Bacterin (No. 43).—Marketed in packages of six 1 cc. vials and in 20 cc. vials. Swan-Myers Company, Indianapolis, Ind.

Calcium Peroxide, Merck.—A non-proprietary brand of calcium peroxide admitted to New and Nonofficial Remedies. Merck and Company, New York.

Sodium Peroxide, Merck.—A non-proprietary brand of sodium peroxide admitted to New and Nonofficial Remedies. Merck and Company, New York.

Zinc Peroxide, Merck.—A non-proprietary brand of zinc peroxide admitted to New and Nonofficial Remedies. Merck and Company, New York.

Ethyl Salicylate, Merck.—A non-proprietary brand of ethyl salicylate admitted to New and Nonofficial Remedies. Merck and Company, New York.

Osmic Acid, Merck.—A non-proprietary brand of osmium tetroxide admitted to New and Nonofficial Remedies. Merck and Company, New York.

Sodium Oleate, Merck.—A non-proprietary brand of sodium oleate admitted to New and Nonofficial Remedies. Merck and Company, New York.

Thiosinamine, Merck.—A non-proprietary brand of thiosinamine admitted to New and Nonofficial Remedies. Merck and Company, New York.

Urea, Merck.—A non-proprietary brand of urea admitted to New and Nonofficial Remedies. Merck and Company, New York.

Ampules Sodium Cacodylate, Mulford, 7¼ grains.—Each ampule contains sodium cacodylate 0.5 gm. H. K. Mulford Company, Philadelphia, Pa.

Ampules Sodium Cacodylate, Mulford, 15 grains.—Each ampule contains sodium cacodylate 1 gm. H. K. Mulford Company, Philadelphia, Pa.

Ampules Solution Pituitary Extract, Mulford, 0.5 cc.—Each ampule contains solution pituitary extract 0.5 cc. H. K. Mulford Company, Philadelphia, Pa. (Jour. A. M. A. Dec. 11, 1915, p. 2085).

Scarlatina Strepto-Serobacterin, Mulford (Therapeutic), (Sensitized Scarlatinal Streptococcic Vaccine). Marketed in packages of four syringes. H. K. Mulford Company, Philadelphia, Pa. (Jour. A. M. A. Dec. 18, 1915, p. 2167).

Quinine Dihydrochloride (Quininae Dihydrochloridum).—The dihydrochloride of the alkaloid quinine. Since quinine dihydrochloride is very soluble, its use has been proposed where concentrated solutions of quinine are wanted, as for subcutaneous injections and similar purposes.

Ampules Quinine Dihydrochloride, Mulford, 0.24 gm.—Each ampule contains 0.24 gm. Quinine dihydrochloride in 1 cc. of sterile solution. H. K. Mulford Company, Philadelphia, Pa.

Ampules Quinine Dihydrochloride, Mulford, 0.5 gm.—Each ampule contains 0.5 gm. quinine dihydrochloride in 1 cc. of sterile solution. H. K. Mulford Company, Philadelphia, Pa. (Jour. A. M. A. Dec. 18, 1915, p. 2167).

Purified Tricresol, Mulford.—A mixture of isomeric cresols, corresponding closely to Cresol, U. S. P. H. K. Mulford Company, Philadelphia, Pa. (Jour. A. M. A. Dec. 18, 1915, p. 2167).

Iodosticks (Iodine 60 per cent. and Potassium Iodide 40 per cent.).—Wooden sticks 1½ inches long, tipped with a mixture of iodine 60 per cent. and potassium iodide 40 per cent. Antiseptic Supply Co., New York (Jour. A. M. A. Dec. 18, 1915, p. 2167).

Iodoapplicators and Idoapplicators, Special (Iodine 60 per cent. and Potassium Iodide 40 per cent.).—Wooden sticks 6½ and 12 inches long, respectively, tipped with a mixture of iodine 60 per cent. and potassium iodide 40 per cent. Antiseptic Supply Co., New York (Jour. A. M. A. Dec. 18, 1915, p. 2167).

G. Strophanthin (Thoms) Merck.—A non-proprietary brand of ouabain, crystallized. Merck and Company, New York.

Mercury Biniiodide Oil Solution in Ampules, H. W. and Co.—One cc. of solution contains red mercuric iodide in a neutral fatty oil, 0.01 gm. (1/6 grain). Hynson, Westcott and Co., Baltimore, Md.

Mercuriol Tablets, ¼ gr.—Each tablet contains mercuriol 0.016 gm. Parke, Davis and Co., Detroit, Mich.

Mercuriol Tablets ½ gr.—Each tablet contains mercuriol 0.03 gm. Parke, Davis and Co., Detroit, Mich.

Mercuriol Tablets, 1 gr.—Each tablet contains mercuriol 0.065 gm. Parke, Davis and Co., Detroit, Mich.

Mercuriol Tablets, 2 gr.—Each tablet contains mercuriol 0.13 gm. Parke, Davis and Co., Detroit, Mich.

Mercuriol with Potassium Iodide Tablets.—Each tablet contains mercuriol ¼ gr. and potassium iodide 1 gr. Parke, Davis and Company, Detroit, Mich.

Iodalbin and Mercuriol Tablets.—Each tablet contains iodalbin 5 grs. and mercuriol 1 gr. Parke, Davis and Co., Detroit, Mich.

Liquid Petrolatum, Merck.—A non-proprietary brand of liquid petrolatum, U. S. P. It is made from American petroleum. It is colorless, non-fluorescent, practically odorless and tasteless. Merck and Co., New York (Jour. A. M. A. Dec. 25, 1915, p. 2239).

ITEMS OF INTEREST.

Salvarsan Made in U. S.—Because of the shortage due to the war, salvarsan is made and offered for sale under its chemical name to physicians and hospitals urgently in need of it by the dermatologic laboratories of the Philadelphia Polyclinic. Dr. Jay F. Schamberg, the director of the Department of Dermatological Research, states that the product made by the dermatologic laboratories has been employed on hundreds of cases with excellent therapeutic results and with no reports of accident or untoward complications (Jour. A. M. A. Dec. 18, 1915, p. 2179).

Incompatibility of Quinine with Aspirin.—Experiments have shown that weak acids, such as acetylsalicylic acid (aspirin) citric, malic, acetic or tartaric acid under the influence of heat may convert quinine into its poisonous isomer quinotoxin and cinchona into cinchotoxin. The danger of the formation of quinotoxin in the body cannot be great. Ready-made mixtures of quinine or cinchona preparations with weak organic acids should be avoided (Jour. A. M. A., Dec. 18, 1915, p. 2187).

Proprietary Digitalis Preparations.—The Council on Pharmacy and Chemistry reports that it is becoming increasingly apparent that the tincture of digitalis produces the full therapeutic effects of digitalis, and that when it is properly made it is as staple as any liquid preparation of digitalis now available; and that the tincture has the systemic side actions of digitalis, including the emetic, in no greater degree than the various proprietary preparations of this drug. Strophanthin and crystallized ouabain are now available in sterile solutions in ampules and afford a convenient means of promptly securing the cardiac action by intramuscular or intravenous injection (Jour. A. M. A. Dec. 4, 1915, p. 2024).

Orthoform—New.—Treasury Decision 2194 contemplates registration of orthoform-new under the Harrison Narcotic Law (Jour. A. M. A., Dec. 25, 1915, p. 2257).

Poslam.—The A. M. A. Chemical Laboratory in 1909 found that essentially Poslam consisted of zinc oxide 12.01 parts, sulphur 6.67 parts, corn starch 22.00 parts, tar oil 15.18 parts, menthol and salicylic acid, small quantities, fatty base to make 100 parts. For skin affections which may be benefited by ointments the official ointments are as effective as the proprietary products and have the added advantage of being of known and more uniform composition (Jour. A. M. A. Dec. 25, 1915, p. 2256).

Ozomulsion.—This "patent medicine" long sold as a consumption "cure," has been declared misbranded under the Food and Drugs Act, the therapeutic claims being both false and fraudulent. The preparation was found to be an emulsion of cod liver oil, with glycerine and phosphorus compounds of calcium and sodium (Jour. A. M. A. Dec. 18, 1915, p. 2184).

Dr. Pierce's Pleasant Pellets.—The A. M. A. Chemical Laboratory reports that the pills responded to tests for emodin and aloin. Essentially, Pierce's Pleasant Purgative Pellets appear to be an ordinary laxative pill. That the active principle of aloes was found in the pills is of interest in view of the fact that the leaflet advertising Pierce's Pleasant Pellets warns the public against the use of purgatives composed of aloes (Jour. A. M. A., Dec. 4, 1915, p. 2025).

THE OATH OF HIPPOCRATES.

I swear by Apollo, the physician, and Aesculapius, and Health, and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and stipulation: to reckon him who taught me this art equally dear to me as my parents, to share my substance

with him and relieve his necessities if required; to regard his offspring as on the same footing with my own brothers, and to teach them this art if they should wish to learn it, without fee or stipulation, and that by precept, lecture and every other mode of instruction, I will impart a knowledge of the art to my own sons and to those of my teachers, and to disciples bound by a stipulation and oath, according to the law of medicine, but to none others.

I will follow that method of treatment which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone if asked, nor suggest any such counsel; furthermore, I will not give to a woman an instrument to produce abortion.

With purity and with holiness I will pass my life and practice my art. I will not cut a person who is suffering with a stone, but will leave this to be done by practitioners of this work. Into whatever houses I enter I will go into them for the benefit of the sick and will abstain from every voluntary act of mischief and corruption; and further from the seduction of females or males, bond or free.

Whatever, in connection with my professional practice, or not in connection with it, I may see or hear in the lives of men which ought not to be spoken abroad, I will not divulge, as reckoning that all such should be kept secret.

While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men at all times; but should I trespass and violate this oath, may the reverse be my lot.—Journal of the American Medical Association.

STATE BOARD OF HEALTH MEETING.

At the regular meeting of the California State Board of Health held in Sacramento, January 8, 1916, a physician of Contra Costa County appeared before the Board to explain his failure to report a case of typhoid fever in an employee of a dairy, among the customers of which eight cases of typhoid fever developed. In his defense the physician stated that he had had a Widal reaction done at the State Board of Health's Hygienic Laboratory in Berkeley and that he considered that sending a specimen of blood to the Laboratory for examination was equivalent to notification. He was warned that formal notification to the health officer is necessary, in order that the provisions of the law may be complied with, regardless of laboratory assistance received.

Resolutions were passed directing local registrars not to file any birth certificates after the expiration of a reasonable time after birth, a period of one year from date of birth being fixed as such reasonable time within which birth certificates may be filed by local registrars. The state registrar was directed not to accept any birth certificates that have been filed after a period of one year from date of birth.

The matter of compelling treatment of dangerous syphilitic patients was taken up by the Board, and inquirers were informed that under the law the State Board of Health can not compel treatment of any kind, but it can isolate persons dangerous to the public health.

In addition to these matters, permits for the disposal of sewage were granted; certificates as registered nurses were granted to three applicants, and the following hospitals having training schools were placed upon the accredited list: Northern California Hospital, Eureka; St. Francis Hospital, Santa Barbara; Alta Bates Sanatorium, Berkeley; City and County Hospital, San Francisco; Mater Misericordia Hospital, Sacramento; Alameda Sanitarium, San Jose; Roosevelt Hospital, Berkeley.

CO-OPERATION IN INDUSTRIAL HEALTH INSURANCE LEGISLATION.

At the request of the American Association for Labor Legislation, the Council on Health and Public Instruction of the American Medical Association has appointed a committee to assist in drafting a health insurance bill to be introduced into the legislatures in session in 1916. The committee consists of Dr. Alexander Lambert of New York, chairman; Dr. Henry B. Favill of Chicago, and Dr. Frederic J. Cotton of Boston. The preparation of this bill and the plans for its immediate introduction into several legislatures have removed health insurance from the realm of academic discussion and have placed it in the front rank of the pressing practical questions confronting the medical profession. The Association for Labor Legislation, which is responsible for this bill, has been influential in securing the enactment of workmen's compensation laws in thirty-three states within five years. It has also worked for protection against industrial disease, and drafted the federal law abolishing the use of poisonous phosphorus in matches. In its legislative program it has been backed by progressive employers, by representative labor leaders and by members of the medical profession interested in industrial diseases. Every extension of its activities in the field of industrial hygiene has made increasingly clear the absolute necessity for making systematic provision for sickness of working men, which is possible only through a comprehensive system of health insurance. In preparing its bill, which is the next step in health legislation, the association wisely has recognized that adequate medical care is of the first importance, both to the wage-earner and to his family, and it has been equally wise in asking the co-operation of medical men in drafting those provisions which affect physicians. The certainty that such laws will be enacted within a few years, the success of the American Association for Labor Legislation in obtaining the legislation it advocates, and the consideration shown to the medical profession have convinced the Council on Health and Public Instruction that co-operation is desirable and opportune. This close co-operation will guarantee that the best interests of the medical profession under health insurance will be borne in mind at every step.—*Journal A. M. A.*

"KIDNEY CURES" SEIZED.

Action against several so-called "kidney cures" has recently been taken under the Food and Drugs Act by the United States Department of Agriculture. In one case the shippers of a preparation labeled as "A Sure Cure for Bladder and Kidney Trouble," were prosecuted on the charge of falsely and fraudulently misbranding the product. They pleaded guilty and were fined \$25 and costs by the court. This particular kidney "cure" was found to contain over 41 per cent. of alcohol. It was labeled "Old Jim Fields Phosphate Dill and Gin Mankind's Greatest Friend. A Sure Cure for Bladder and Kidney Trouble. It is also a Great Aid in Case of Urinary Trouble. Allenberg & Meister, Sole Agents, Memphis, Tenn." An analysis of the product showed that it contained no material amount of either dill or phosphate.

In another case 48 bottles of "Stuart's Buchu and Juniper Compound," prepared by the Stuart Manufacturing Company, Atlanta, Georgia, were seized. The court issued a decree of condemnation, forfeiture, and destruction on the ground that the claims upon the label were misleading, false, and fraudulent. On this label the manufacturers recommended their product as a remedy for a great variety of kidney and bladder diseases and stated that the medicine contained 16 per cent. of alcohol.

According to the medical experts of the Depart-

ment, alcohol is a kidney irritant and is dangerous in many cases of kidney disease. For this reason many physicians advise their patients who suffer from any kind of kidney or bladder trouble to abstain from the use of alcohol even in moderate quantities. Some manufacturers of kidney medicines which contain considerable quantities of alcohol also advise their customers to abstain from all alcoholic drinks, showing in this way that they know the harmfulness of alcohol in kidney diseases, even though they use it in their own preparations. It is the opinion of the medical experts of the Department that such so-called "kidney remedies" as those recently seized are not only worthless but actually harmful, because of the amount of alcohol which they contain.

THE FACTOR OF POVERTY IN SANITATION

The factor of poverty in sanitary problems was discussed in Washington, November 26, by Surgeon-General William C. Gorgas, whose success in cleaning up Havana and the Panama Canal zone have brought him recognition as America's leading sanitarian. His audience was the Clinical Society of Surgeons, assembled in their twenty-fourth annual meeting. Dr. Gorgas said, in part:

"Such sanitary work as is necessary in the tropics is inexpensive, but measures directed against special disease are not the greatest good that can be accomplished by sanitation.

"Before these great results that we can all now see are possible for the sanitarian, we shall have to alleviate more or less the poverty at present existing in all civilized communities. Poverty is the greatest of all breeders of disease and the stone wall against which every sanitarian must finally impinge.

"During the last ten years of my sanitary work I have thought much on this subject. Of what practical measure could the modern sanitarian avail himself to alleviate the poverty of that class of our population which most needs sanitation? It is evident that this poverty is principally due to low wages; that low wages in modern communities are principally due to the fact that there are many more men competing for work than there are jobs to divide among these men. To alleviate this poverty two methods are possible, either a measure directed toward decreasing the number of men competing for jobs, or, on the other hand, measures directed toward increasing the number of jobs.

"The modern sanitarian can very easily decrease the number of men competing for jobs; if by next summer he should introduce infected stegomyia mosquitoes at a dozen different places in the southern United States he could practically guarantee that when winter came we would have several million less persons competing for jobs in the United States than we have at present. This has been the method that man has been subject to for the last six or seven thousand years, but it does not appeal to me, nor, I believe, to yourselves. This method is at present being tried on a huge scale by means of the great war in Europe. I do not think that I risk much in predicting that, when this war is over and we shall have eliminated three or four million of the most vigorous workers in Europe, wages will rise and for a long time no man will be unable anywhere in Europe to get a job at pretty fair wages.

"But I am sure that every sanitarian would much rather adopt measures looking toward the increase of jobs rather than, as we have done in the past, submit to measures that decrease the number of competitors for jobs.

"I recently heard one of the members of the Cabinet state that in the United States 55 per cent. of the arable land, for one reason or another, is being held out of use. Now suppose in the United

States we could put into effect some measure that would force this 55 per cent. of our arable land into use. The effect at once would be to double the number of jobs. If the jobs were doubled in number wages would be doubly increased. The only way I can think of forcing this unused land into use is a tax on land values.

"I therefore urge for your consideration, as the most important sanitary measure that can be at present devised, a tax on land values."

INDIGENT TUBERCULOTICS.

Whereas, The death rate from tuberculosis in California and other southwestern states is very large, reaching, for example, the rate of 362.5 per hundred thousand population in one county of California and a corresponding rate of 192.5 for the state as a whole; and

Whereas, This high death rate is largely due to the influx, from all the other states of the union, of tuberculous patients, who are, most of them, in advanced stages of the disease and financially unable to provide proper care for themselves; and who, therefore, wander from county to county, unable to exercise proper precautions to prevent infecting others; and

Whereas, The only opportunity for the great majority of tuberculous patients to obtain necessary hospital care is at public expense in county hospitals, as is shown by the facts that seventy-five per cent. of the patients dying of tuberculosis in California have an annual family income of less than one thousand dollars, and twenty-seven per cent. of all children who have received state aid as orphans or half-orphans in California in the year 1914 lost one or both parents through tuberculosis; and

Whereas, There are only 906 beds available for tuberculous patients in county hospitals in California, while the average annual number of deaths is over 5000, and the counties containing the largest proportion of cases from other states are unable to bear alone the double burden of caring properly for the non-resident and the resident tuberculous even with the recently provided state aid for the latter; and a similar lack of bed capacity exists in the other southwestern states; and

Whereas, Recent investigations by the United States Public Health Service show that there is an annual migration of between 10,000 and 15,000 tuberculous persons to the western and southwestern states, and that from 30 to 50 per cent. of these patients die within six months after their arrival, and further, that from 40 to 90 per cent. of all deaths from tuberculosis in the west and southwest are natives of other states; therefore, be it

Resolved, That the California State Board of Health endorses the Federal Bill which will provide for the payment of a subsidy to hospitals maintaining standards of equipment, diet and care established by the United States Public Health Service, and caring for tuberculous patients who are not residents of the State in which they are; and be it further

Resolved, That copies of these resolutions, together with copies of the Federal Bill, be transmitted to the Secretary of the Treasury of the United States, the Surgeon-General of the Public Health Service, to the Representatives in Congress from California, to the Boards of Health of all the states, to the National Association for the Study and Prevention of Tuberculosis, to the American Public Health Association, and to the American Medical Association.

An Act to Provide Federal Aid for Indigent Persons Afflicted with Tuberculosis in State or Other Institutions when such Indigent Persons are not Citizens of the State Where such Institutions Are Located.

Be it enacted by the Senate and House of Rep-

resentatives of the United States of America in Congress assembled:

Section 1. That the Treasury Department, through the Public Health Service, shall provide Federal aid for the benefit of indigent persons afflicted with tuberculosis who are not residents of the state in which such indigents are; and further, that it shall provide for standardizing rules and regulations of diet, hygienic requirements, care and attention for such patients.

Sec. 2. That each and every hospital and sanatorium within any state, territory, or the District of Columbia, desiring to care for the class of cases mentioned in Section 1 of this Act, shall make application to the Secretary of the Treasury, on the blank prescribed for the purpose. If on inspection by an officer of the Public Health Service, the hospital making application is found to conform to a standard of diet, hygienic requirements, care and attention, established by the Treasury Department, said hospital may be designated as an auxiliary hospital and may receive aid for non-resident tuberculosis indigents, in a sum not to exceed five dollars per week per patient, provided that said hospital shall conform to the regulations established by the Treasury Department for hospitals receiving aid under this Act.

Sec. 3. That every such indigent patient prior to such aid being granted must state under oath whether he has been assisted by any person or any institution to leave his own state or country, and what was the nature of such assistance, and that proof of such assisted migration shall render him ineligible to benefits under this Act, provided that the Treasury Department may pay the subsidy if it is satisfied that the object of such assistance was not the obtaining of the subsidy, and false testimony shall further subject such person to punishment for perjury.

Sec. 4. That all institutions receiving such Federal aid shall report at such times as the Secretary of the Treasury shall designate, and further shall be subject at all times to Federal inspection.

Sec. 5. That the Secretary is authorized and directed to refuse aid or assistance to or through any institution wherein sanitary, dietetic and other conditions are not maintained in accordance with the requirements laid down by said Secretary. Furthermore, the Secretary of the Treasury is authorized and directed to refuse aid to or through any institution or hospital organization that shall assist in migration of any indigent tuberculosis patient.

Sec. 6. That the Secretary of the Treasury is authorized to make such regulations as are necessary to carry out the provisions and intent of this Act.

Sec. 7. That \$25,000 shall be appropriated for the administration of this Act, and that a sum not exceeding \$2,000,000 be appropriated for aid under the terms of this Act.

REPORT OF INDUSTRIAL ACCIDENT COMMISSION.

On December 1st the Industrial Accident Commission reported to Governor Hiram W. Johnson its transactions for the fiscal year ending June 30, 1915. This report covers the Department of Compensation, Insurance and Safety, with their allied sections, and is accompanied by a full statistical report of the 62,211 industrial accidents that occurred in California during 1914. These accidents were divided as follows: deaths, 678; permanent injuries, 1,292; temporary injuries, 60,241.

The Commission points with satisfaction to the large number of acceptances of compensation received from employers in the exempted classes of agricultural and kindred callings and household domestic service. The last report, covering the

first six months of 1914, showed that 2,820 employers had filed with the Commission written acceptances of the compensation provisions of the law. During the year ending June 30th last, 4,038 additional acceptances were filed, making a total of 6,858. These voluntary acceptances brought many thousands of employees under the benefits of the Workmen's Compensation, Insurance and Safety Act.

It is shown that there has been a change in sentiment concerning the new system and that workmen's compensation is now universally regarded as an equitable method of providing a limited income for those who are hurt while at work, in comparison to the inequities that prevailed under employers' liability.

Five decisions on cases appealed from the awards of the Commission were handed down by the Supreme Court of the State of California up to June 30th last. In the case of Joseph Cardoza, the Supreme Court denied an application for a writ of review on the ground that it was not competent for the court to pass upon the question as to whether or not the findings of the Commission are sustained by the evidence and that the Commission had the right and power to decide finally whether or not the applicant had discovered new evidence material to him.

In the case of George W. Smith, the District Court of Appeal, Second Appellate District, affirmed the award of the Commission in favor of the defendant Southern Pacific Company on the ground that petitioner was a special officer or watchman at the time of his injury, which occurred while he was engaged in preventing trespassers from boarding an overland train. It was contended that the Federal Employers' Liability Act brought this case under interstate commerce.

An important decision was rendered in the case of the appeal of the Great Western Power Company against the decision of the Industrial Accident Commission. It was held that James Mayfield met his death as a result of wilful misconduct and the court laid down this rule:

"But it cannot be doubted that a workman who violates a reasonable rule made for his own protection from serious bodily injury or death is guilty of misconduct and that where the workman deliberately violates the rule, with knowledge of its existence and of the dangers accompanying its violation, he is guilty of wilful misconduct."

In the case of San Francisco Stevedoring Company the Supreme Court affirmed the Commission in holding that it is not without jurisdiction over a proceeding by an employee for compensation for injuries received by him in the course of his employment, even though he had failed successfully to maintain a suit in the Superior Court, on the ground that it was necessary to show the employer's gross negligence or wilful misconduct and no such allegations were made in the complaint.

The appeal of Olson & Mahony S. S. Co. against the Commission's award to an employee who sustained an injury on a ship in the dry dock was settled and dismissed upon the payment of \$500.

Number of Formal Cases Heard.

The report of the Compensation Department deals with the methods of conducting cases in which there are disputes between employers and employees or other interested parties. Mention is made of the plans followed to avoid formal hearings and to reach an amicable agreement between the parties whenever a dispute arises. There was a steady increase in the number of cases filed for decision, there being 1,151 filed during the last fiscal year, 23 arising under the law of 1911 and 1,128 under the present law, an average of 96 per month. The issue in 331 of the cases decided during the fiscal year was the extent and duration of disability. There were 15 other issues on which

the remainder of the cases hinged. Wilful misconduct was an issue in 23 cases and intoxication in 7 cases. Important questions are pending in the appellate courts as to whether the Industrial Accident Commission has extra-territorial jurisdiction and whether the employer can invoke the Federal law limiting liability when a vessel is lost.

The Method of Rating Permanent Injuries.

The Permanent Disability Rating Department scientifically rates permanent injuries according to the nature of the injury or disfigurements, the occupation and the age. This plan enables compensation to be awarded according to loss of earning power. California is the only State possessing this method of computation.

Medical Assistance in Administering the Act.

The Medical Department arranges for the examination and treatment of injured men when there are disputes as to the nature and extent of disability. It also supplies information on all questions of a medical character and assists in determining the status of injured men whenever called upon. The standards of surgical results are very high. It is more and more recognized that better surgery throughout the State diminishes disabilities and therefore decreases compensation payments. Plans for an X-ray Museum are under way and the indications are that there will shortly be a complete series of examples of all bone injuries. The attitude of the medical profession towards the Workmen's Compensation, Insurance and Safety Act is now cordial.

Splendid Record of State Compensation Insurance Fund.

The success of the State Compensation Insurance Fund has been noteworthy. At the close of the first year (1914) the fund had written \$547,161.24 in net compensation insurance premiums, or approximately \$144,000,000 in excess of the writings of its nearest competitor. A refund to policyholders of 15 per cent. of earned premiums was allowed as policies expired and actual payroll expenditures of insured employers were ascertained. The total amount of this refund was approximately \$75,000. It is estimated that an additional refund of 28 per cent. will be returned to policyholders, or a total dividend of 43 per cent. At the end of the first year (1914) the rate schedule was readjusted, resulting in an average reduction of 10 per cent. The merit system of rating has been applied to all manufacturing risks and this resulted in a further average reduction. The Fund continued to co-operate with the Workmen's Compensation Service Bureau with reference to initial rates. A systematic and successful safety campaign has been conducted among those employers holding policies in the Fund. From January 1, 1914, to June 30, 1915, 5,861 cases of accidental injury were reported to the Fund. Of these cases 37 resulted in death, 83 in permanent injuries and 5,392 were temporary injuries. Of the total cases reported 349 were rejected as creating no liability on the part of the Fund.

The Safety Department Vital to Act's Success.

The Industrial Accident Commission considers its Safety Department the most important of all the departments. The prevention of industrial accidents attracts general attention. Compensation at best is a poor substitute for an injury.

Co-operation of a cordial nature developed during the past year. "Safety First" Conferences were held in the large cities and were addressed by leading employers and employees. As a result, committees representing the California Employers' Federation and the California State Federation of Labor in the north, and the Merchants' and Manufacturers' Association and the Central Labor Council of Los Angeles, have met in conference to pre-

pare General Safety Orders for California. In addition, these committees have assisted in the formation of sub-committees to prepare orders for the different industries.

An attractive exhibit was maintained at the Panama-Pacific International Exposition. Plants to the number of 746 were visited and safety requirements affecting 76,843 employees were installed. Safety bulletins have been issued in English, Italian, Russian, Croatian, Spanish, Portuguese and Greek. An exhibit of safety devices has been prepared to send to the public schools of the State, under the auspices of the Extension Department of the University of California.

The Safety Museum at 525 Market street, San Francisco, has been enlarged, and another museum started in the Union League Building in Los Angeles.

The National Safety Council was joined and a San Francisco branch of the Council formed.

A committee representing the California Metal Producers' Association and the organizations of mine employees prepared Mine Safety Rules for the State. U. S. mine-rescue cars visited the mining districts and the Universities of California and Stanford. The co-operative agreement with the U. S. Bureau of Mines was continued. First-aid instruction was given the miners by a Government expert. Nearly all the mines of the State were visited and the suggestions for safety were generally adopted. Dredges were also examined by the mining engineer and plans formulated to give employees safe working conditions.

Statistical Report Gives Striking Data.

A study of the sixty-odd thousand accident reports for the year 1914 reveals some interesting features of California's industrial problems. 678 workmen of an average age of 39 suffered death. About 48 per cent, of those killed left 625 people totally dependent. The average age of those widowed through industrial accident is about 39 years. These widows on an average must provide for about $2\frac{1}{4}$ children of an average age of 9 years. To help meet this burden, employers and insurance companies have already paid \$243,366.00, and payments will continue for four and one-half years from date of accident.

One thousand two hundred and ninety-two workmen suffered nearly all the conceivable forms of physical mutilation. Parts or all of over 600 fingers were cut off; 172 eyes are either missing or have suffered serious impairment of vision; 28 arms and 45 legs were amputated; 31 men were sufficiently disabled to require a life pension. To repair and relieve these workmen, already \$604,743.00 has been paid, and payments will continue, in some cases, as long as life lasts.

The 60,241 men and women who received injuries which left no permanent effect, did suffer sufficiently, however, to require the expenditure of over one million dollars to cure and relieve them from the effects of the injuries.

The time lost through the sixty-odd thousand temporary injuries is equivalent to about 3000 men being laid up for the entire year.

UNITED STATES PUBLIC HEALTH SERVICE

Boards will be convened at the Bureau of Public Health Service, 3 "B" Street, S. E., Washington, D. C., and at a number of the Marine Hospitals of the Service, on Monday, January 24, 1916, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of Assistant Surgeon in the Public Health Service.

The candidate must be between 23 and 32 years of age, a graduate of a reputable medical college, and must furnish testimonials from two responsible

persons as to his professional and moral character, together with a recent photograph of himself. Credit will be given in the examination for service in hospitals for the insane, experience in the detection of mental diseases, and in any other particular line of professional work. Candidates must have had one year's hospital experience or two years' professional work.

Candidates must be not less than 5 feet, 4 inches, nor more than 6 feet, 2 inches, in height, with relatively corresponding weights.

The following is the order of examination: 1, Physical; 2, Oral; 3, Written; 4, Clinical.

Candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

Examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise covers the various branches of medicine, Surgery and Hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital.

The examination usually covers a period of about ten days.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order. They will receive early appointments.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Passed assistant surgeons after twelve years' service are entitled to examination for promotion to the grade of surgeon.

Assistant surgeons receive \$2,000, passed assistant surgeons \$2,400, surgeons \$3,000, senior surgeons \$3,500, and assistant surgeon-generals \$4,000 a year. When quarters are not provided, commutation at the rate of \$30, \$40, and \$50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent, in addition to the regular salary for every five years up to 40 per cent, after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For invitation to appear before the board of examiners, address "Surgeon-General, Public Health Service, Washington, D. C."

SUMMARY OF THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES PUBLIC HEALTH SERVICE.

The annual report of the Surgeon-General of the United States Public Health Service records the largest amount of work performed in the history of that organization. Since the passage of the law of 1912 the public health functions of the Service have materially broadened, thereby increasing greatly its usefulness to the American people. Throughout the report the economic importance of disease prevention is made apparent to the reader.

Perhaps the most important achievement of the year was the discovery that pellagra is a deprivation disease, resulting from a faulty diet containing an excess of carbo-hydrates. While the final experiments which led to this discovery have only recently been completed, the conclusion itself is the culmination of investigations extending over a period of seven years. The work has consisted of epidemiological field studies, actual feeding experiments conducted at numerous places in Georgia and Mississippi, and experimental research at Spartanburg, South Carolina, and other places.

A new national quarantine station was opened at

Galveston, Texas, and the control of the Boston station was transferred to the Public Health Service. A great reduction in immigration has been observed during the year, with a corresponding increase in the number of aliens certified. At the Port of New York, the percentage has risen from 2.29, previous to the development of the European conflict, to 5.37 since that time, this increase largely being due to the fact that with the decreased immigration more time can be devoted to the examination. The number of cases treated at Marine Hospitals and relief stations exceeded 55,000, 15,000 of which were hospital patients, a considerable increase over previous years. The Coast Guard Cutter "Androscoggin" was fitted out as a hospital ship and now affords relief to deep sea fishermen on the Banks of Newfoundland.

On the occurrence of plague at New Orleans, the first outbreak upon the Gulf seaboard, the state and local health authorities requested the Public Health Service to take charge of the situation. Extensive rat-proofing and other anti-plague measures were undertaken, resulting in the eradication of the disease from among human beings, and the practical extermination of the rodent infection.

Great reduction in the incidence of malaria was obtained in localities where surveys were conducted. Drainage projects, rice culture studies and the conditions surrounding the impounding of water for power purposes were investigated in order to eradicate as far as possible the disease in these areas. Scientific investigations of malarial infection showed that in the latitude of this country the most important agent in carrying the infection through the winter season is man, and not the infected, hibernating, *Anopheles* mosquitoes as was previously supposed. From the standpoint of prevention this is a discovery of considerable value.

Studies of occupational diseases and industrial hygiene were instituted at several places during the year. A survey of the industries of Cincinnati was made to determine the cause of the prevalence of tuberculosis among industrial workers. The investigations relating to the migration of persons suffering from tuberculosis were completed.

Upon the request of the health authorities of five states, the organization and operations of the respective boards of health were studied and recommendations advanced for improvement in the powers and duties of these bodies. The health organizations of several cities were likewise investigated.

Investigations of the pollution of streams and the examination of shellfish were also conducted.

Trachoma was combated in the Appalachian Mountains, where it is most prevalent, over 12,000 cases being treated. Surveys in certain states during the year showed that the disease is not an uncommon infection.

Rural sanitation work was conducted in six different states and everywhere resulted in the reduction of typhoid and other communicable diseases.

Public health laboratories for the prevention of the interstate spread of disease were established at Chicago, Seattle, and numerous other railway centers.

Additional duties have been imposed upon the Service by extension of relief benefits to the newly organized Coast Guard and the physical examination of seamen applying for the rating of "able seaman." For this reason, and because of the greatly increased health functions of the Service, an increase in the commissioned personnel is recommended. An additional building for the hygienic Laboratory and the establishment of a National Leprosarium for the proper segregation and care of cases of leprosy are also recommended.

CARELESSNESS AND ACCIDENTS.

Five hundred and twenty-five vehicle drivers on the Pacific Coast did their best to break into a railroad crossing accident in the two years ended June 30, 1915, despite the fact that gates were down and warning bells ringing. This is shown in a report of the Southern Pacific Company, which reveals that during the period mentioned 525 crossing gates were broken by drivers who risked life and limb for speed and carelessness. The gamble taken by the drivers is obvious. To be broken the gates had to be down, and the gates are down only when trains are approaching. The railroad company spends over \$100,000 annually to operate and maintain crossing gates, but feels that the active co-operation of motorists and other vehicle drivers is imperative if crossing accidents are to be minimized.

Recently the Southern Pacific had observations taken at various crossings throughout the state to observe how careful drivers were in approaching the tracks. Of 17,021 motor vehicles observed, 11,836 drivers, or 69½%, looked neither way before crossing the tracks; 2.7% looked one way only, and but 27.8% looked in both directions. The almost incredible number of 3301, or 19.3% of the total number of drivers observed, ran over the crossings at a reckless rate of speed. But 35 drivers stopped their machines before crossing the tracks to see that no trains were approaching.

NEW MEMBERS.

Hanlon, E. R., Los Angeles.
 Rogers, A. C., Los Angeles.
 Stovall, Leonard, Los Angeles.
 Flagg, D. P., Los Angeles.
 Athon, L. H., Los Angeles.
 Blanchard, Wm. O., Los Angeles.
 Gray, Etta, Los Angeles.
 Dodge, Wm., Los Angeles.
 Derrick, Joseph, Los Angeles.
 Dozier, Earnest, Redding.
 Hughes, H. W., Los Angeles.
 Carter, W. E., Los Angeles.
 Gerson, T. P., Los Angeles.
 Metcalf, Clair F., Los Angeles.
 Seaman, E. D., Los Angeles.
 Johnson, P. V. R., Los Angeles.
 Platt, I. S., Los Angeles.
 Carter, Martin G., Los Angeles.
 Levin, Z., Los Angeles.
 Norton, C. W., Los Angeles.
 Moore, M. L., Los Angeles.
 Sugarman, Herman, Los Angeles.
 Kearney, Elizabeth F., Los Angeles.
 White, P. G., Los Angeles.
 Jacobs, Edw. H., Los Angeles.
 Wilson, H. P., Los Angeles.
 Franklin, J. W., Los Angeles.
 Tower, Franklin J., Los Angeles.
 Bancroft, I. R., Los Angeles.
 Jackson, J. A., Hollywood.
 Taggart, T. E., Los Angeles.
 Hoag, E. B., Pasadena.
 Zuill, W. L., Los Angeles.
 Hanson, Wayne P., Los Angeles.
 Carson, Emma M., Los Angeles.
 Du Bois, Willard Cecil, Santa Ana.
 Gates, Amelia L., San Francisco.
 Hill, Earl W., Eureka.
 Pierson, P. H., San Francisco.

DEATHS.

Atkinson, H. H., Harpoot, Turkey.
 Bullard, Rose Talbott, Los Angeles.
 Bryant, Edgar Reeve, San Francisco.
 Craig, Thos. L., Soledad.
 Jenkins, John E., Los Angeles.
 Martineaut, E. D., San Francisco.

RESIGNED.

Carter, J. M. G., Los Angeles.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Fayette W. Birch, M. D.

René Blin, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - - Butler Building,
State Journal, - - - - San Francisco.
Official Register, - - - -

Telephone Douglas 2537

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV MARCH, 1916 No. 3

EDITORIAL NOTES

STATE SOCIETY MEETING, APRIL 1916. FRESNO!! FRESNO!! FRESNO!!

April 18, 19, 20; remember the dates; Tuesday, Wednesday and Thursday.

See elsewhere in this number of the JOURNAL for the preliminary program of the scientific sessions.

There will be an interesting discussion of the insurance situation from a number of angles and probably the discussion will be profitable to all.

Write at once to the Secretary of the Committee of Arrangements, Dr. Stanniford, Fresno, for your hotel accommodations—and state just when you will arrive.

Entertainment for all, and of a most enjoyable kind, is being arranged and there is every reason to believe that this will be one of the best and most pleasant meetings the Society has had for a number of years.

Do not fail to attend this meeting. Note the dates right now—April 18, 19, 20. Fresno. Must go. Headquarters hotel is the Hotel Fresno and all the sessions will be held in that hotel.

The roads will be in fine shape and those who like motoring—and who does not?—will enjoy their trip—as well as their visit to this one of our most progressive of the many valley towns.

Fresno, April 18, 19, 20, 1916.

YOUR OFFICE.

Some questions that were casually asked a short time ago have suggested a note from time to time on little things connected with the office of the State Society and its methods of doing business. There are three large steel safes in the office; not burglar-proof but reasonably fireproof; that is, any ordinary fire in the rooms or the building would not attack them seriously. Two of them are quite full and the other is about half full—of records. All the reports of county society membership since the fire are bound and put away in these safes. All correspondence relating to suits for damages for alleged malpractice, or threats, or rumors of threats, are also bound and filed away. All documents in every such case when it is finally terminated, are kept and filed; these files are not yet complete, as many documents are still in the offices of our attorneys; but they will all be duly filed in time. What for? So that we may at any time have at hand all the information possible about any physician who has been or is a member. And also, we are as anxious to file information about those who are not members, but who may some day want to become such. The paper for the JOURNAL is not bought from month to month from some paper house. It is made, once or twice a year, at a mill in Maine. It is made of a special size, weight and quality best adapted to our needs of clear printing and of taking illustrations reasonably well. Having it made exactly to suit our requirements secured a saving of 18% in waste alone and gave us a better paper. Incidentally, by getting our paper in this way and in good quantities, we get a better price on it; and that helps too!

TUBERCULOSIS.

A very successful joint conference of the California Association for the Study and Prevention of Tuberculosis and the San Francisco Association for the Study and Prevention of Tuberculosis was held in San Francisco on Thursday, January 27th. The session was opened in the morning by an address by the President of the State Medical Society, Dr. Harry M. Sherman. During the morning, papers relating to incipient and advanced cases, clinics, visiting nurses, etc., were discussed; at 12:30, following a luncheon, the broader aspects of the general campaign against tuberculosis were discussed by four speakers, and the sessions continued during the afternoon and evening.

YOUTHFUL PARENT; ORDINARY CHILD.

A gentleman named Redfield, of Chicago, is interested in the subject of eugenics and has compiled some rather out-of-the-way statistics. Of course, "nothing lies like statistics," but at the same time they are interesting. According to his report of researches into the male parent's age of 571 eminent men (direction of eminence not stated) more than half of them were children whose male parent was from 45 to 60 at the time of the birth of the eminent-man-to-be.

POISONOUS FLY PAPERS.

Little things are sometimes of significance, when one comes to study them carefully. No one paid much attention to Fourth of July catastrophes until the *Journal A. M. A.* began to study the matter; and now it is different. Recently some one has begun to study the accidental casualties due to poisonous fly papers, and the *Journal of the Michigan State Medical Society* has the following item on the subject:

A year ago, in discussing this subject editorially, we gave a partial report of the cases of arsenical poisoning of children from accidentally consuming the contents of fly-destroying contrivances during the summer of 1914. It was gratifying to note the number of medical journals that reprinted our editorial or commented upon the subject. The discussion was evidently a timely one.

For the summer of 1915 we have been able to secure the reports of the following cases:

Month	No.	Fatal	Recovery Indicated	Recovery Doubtful
May	1	1		
June	2			2
July	5	2	2	1
August	14	5	8	1
Totals	22	8	10	4

These cases were reported by the daily press as occurring in the following states: Georgia, 1; Illinois, 6; Indiana, 2; Iowa, 2; Massachusetts, 2; Michigan, 2; Missouri, 1; Nebraska, 1; New York, 1; Oklahoma, 1; Ohio, 1; Pennsylvania, 2; a total of twenty-two cases. This report must necessarily be considered as very incomplete and but an indication of the possible extent of a wholly preventable danger.

We again point out the fact that the symptoms of arsenical poisoning are very similar to those of cholera infantum and that undoubtedly a number of the cases of cholera infantum that occurred were really cases of arsenical poisoning, and death, if occurring, was attributed to the fact. The cases reported were of children ranging in age from 1 to 6 years. These little patients are not old enough to tell what they have taken when questioned as to their illness, and unless they are seen consuming the fly poison the actual cause of their sickness or death is overlooked and the fatality ascribed to cholera infantum or to some other similar causes and the error in diagnosis goes undetected.

We repeat, arsenical fly-destroying devices are dangerous and should be abolished. Health officials should become aroused to prevent further loss of life from their source.

Our Michigan Legislature, this last session, passed a law regulating the sale of poisonous fly papers. Similar enactments should be secured and enforced in every state in the Union.

OBSTETRICS AND MALPRACTICE SUITS.

Of course it is not always possible to have a woman who is about to be confined placed in a properly equipped hospital where everything that may be needed is at hand—and *clean*; nor yet is it always possible to have the services of a thoroughly trained nurse at the time of the confinement. In a very large number of confinement cases the means of the patient will not permit luxuries of this sort, and therefore in many cases a "practical nurse" is all that the patient can provide for the assistance of the doctor. Very frequently the practical nurse is some old woman who has helped at confinements and therefore is thoroughly convinced of the fact that she knows it all. During the past year we have had four suits for damages for alleged malpractice in confinement cases, the basis of the allegation of negligence, on the part of the doctor, coming in every instance from uncalled-for comment on the case by the practical nurse or old woman in attendance. To be sure, we have won all of these suits, but even winning suits is an expensive proposition and annoying to the doctor who is sued.

In every confinement case where you are confronted with a situation of this kind—that is, a "practical nurse" or some old woman to assist—make it a point to be unusually careful and to preserve in your records ample notes of exactly what happened. Above all else, make sure that the placenta is carefully examined and in the presence of at least one other person. Do not think that all suits for damages for alleged negligence by the physician arise from cases of fractures; there is no range of human ailment which has not provided material for such a suit and obstetrics has furnished its full share.

OPERATIONS AND THE LAW.

It may not be amiss to emphasize, even though they have been touched upon before, some few of the points wherein it is essential that the surgeon know what the law requires of him. And first of all, remember that the law does not require anyone to treat or to operate upon a sick or injured person; the treating or operating is the creation of a voluntary contract entered into by the physician or surgeon. It then becomes his legal duty to live up to the letter of his contract and the law will inquire strictly into the matter of neglect. All operations fall naturally into three classes: Emergency; by consent, where there is no emergency; and trespass, where something is done without consent, there existing no emergency. In the first class there is great latitude and if what is done is done in good faith and to the best of one's knowledge and ability, that is sufficient. It has even been held that one not a physician or surgeon, in the face of an emergency when it is probable that a life will be lost if some immediate operation is not done, may so operate and if he does the best that he can, he is not held in manslaughter if the party dies. Where the patient is unconscious and there are no relatives at hand or none can be reached without a dangerous delay, it is quite proper to do anything that will

have a tendency to preserve life, even without consent. But in all such cases it is the wise thing to have a consultation, if it be possible, and to keep careful records of the diagnosis, opinions before operation, and what was done and found. In all such operations without consent, the operator should use extraordinary care and should not depart in any way from what is recognized as the proper and general procedure; the law does not regard operative experiments without consent, with much favor. No operation not of emergency should ever be done without a full understanding between the physician and the patient, or the parents if the patient be a minor, and it is wise to have this understanding extend to and include other relatives of the patient, if such there be. If possible, without forcing the issue, it is well to have this consent in writing. Nowadays, few if any surgeons undertake a major operation with any restrictions implied; that is, they have the consent of the patient to do whatever may seem to be necessary after the operation has been begun; this is the only safe course. There should never be the slightest chance of misunderstanding as to this general consent to do what is necessary; if it is less than this, if the consent is qualified and when the operation is in progress some condition is found needing attention that was not specified, the operation should stop and the patient be allowed to become conscious before anything further is done. Failure to follow this course has resulted in heavy judgments against surgeons. When the right ear was to have been operated upon, and under the anesthetic the left ear was found to be in worse case and was the ear of operative attack, it was held a trespass on the person of the patient and a heavy verdict given. So, where in an operation to remove a foreign body from the foot, a sesamoid bone was removed without previous consent, it was held a trespass and a judgment given to the plaintiff. It is needless to say that an abortion should never be performed except after consultation and in the presence and with the assistance of another physician.

REPORTS ARE TO BE MADE, NOT ASSUMED.

When the law requires that a physician shall report certain things, it means that he shall actually make such a report and not suppose that it will be assumed from some other fact. Most people are not mind-readers, and those who are, are busy. A report is a report and must be made in writing to the proper person; ignorance of the law is no excuse. If a man chooses to practice medicine it is understood that he will familiarize himself with the duties which the law has placed upon him. In this connection comes a timely "news letter" from the State Board of Health:

A physician of Contra Costa County who was summoned to appear before the California State Board of Health at its last meeting to explain his failure to report a case of typhoid fever in a dairyman, stated in his defense that he had sent a specimen of blood to the State Hygienic Laboratory for examination, and that he considered this equivalent to reporting. He

was warned by the Board that formal notification to the health officer of cases of communicable disease is necessary, in order that the provisions of the law may be complied with. The Board is considering other cases of failure to report communicable diseases, and is determined to secure such reports from all physicians in the State.

Birth certificates will not be accepted for filing after one year from date of birth, according to a decision of the State Board of Health. In some cases, attempts have been made to file certificates several years after date of birth. The law does not authorize the filing of birth certificates after a reasonable length of time has expired, and the Board has set the period of one year as reasonable.

In reply to many inquiries concerning the matter of compelling dangerous syphilitic patients to take treatment, the Board has replied that it has no power under the law to compel treatment of any kind, but it may isolate persons who are dangerous to the public health.

HOSPITAL LIABILITIES.

The liability of a hospital for the negligent or careless acts of its employees or staff depends upon the character of the hospital. All state institutions, hospitals, asylums, and the like, are expressly without liability for torts due to the negligence or lack of skill or judgment of their employees; and the rule holds as to county or city and county institutions, strictly such. Nor is there liability in such institutions for insufficient or poor food. Private hospitals are of two sorts; charitable institutions and those for gain; railroad hospitals, though not for gain, are held not to be charitable institutions. The courts in the various states are not absolutely agreed as to the non-liability of charity hospitals, but the great weight of opinion is that they are not to be held in damages for the negligence of their employees or staff; in this state that is the rule. The argument is that such hospitals are supported by funds given for charity and that such gifts may not be diverted from that purpose to the payment of damages to individuals who may suffer from negligence, etc. With hospitals for gain or profit, however, the rule is quite otherwise; they are liable for the torts or wrongs of their employees due to negligence, carelessness, lack of skill and the like. The trend of all recent decisions is that such hospitals, even though they may have exercised due care in the hiring of servants, are responsible for the negligent acts of such servants. Thus a hospital was held in damages for the death of a typhoid patient who jumped from the open window in the absence of the nurse from the room for a brief space; another was held for the burning of the patient by a hot water bag placed in the bed by the nurse; and another for mistakenly giving the patient a solution of bichloride of mercury. But it must be well proved that the act complained of was the act or failure to perform the act that caused the wrong. Such is the general status of hospitals in their legal relation to the public, and it seems reasonable.

SOUTHERN PACIFIC.

The Southern Pacific Company has established a news bureau that sends out leaflets on interesting subjects. It is a good move. Too long have the large corporations gone their own way and let the public come to them when it had to and find out what it could. Also, many of these items are of beneficial use. As, for instance, their report of the number of accidents due to automobiles carelessly driven across tracks as indicated by the breaking of the protective gates which, being down in order to be broken, are conclusive evidence of careless driving. The following item in regard to the increase in the number of elk in this state will be news to most of us:

So abundant are elk becoming in several parts of California that it will be proper to allow some hunting within the next few years, according to Director Barton W. Evermann of the California Academy of Sciences, which is aiding in the distribution of the animals from the Miller & Lux ranch at Buttonwillow, Cal. Reports received show that all of the shipments during 1914 were successful and that the herds show every indication of a rapid increase in numbers. The Southern Pacific recently handled the following elk shipments:

- 4 elk (1 male and 3 females) to Mooney Park, Visalia.
- 1 female to City Park, Fresno.
- 1 male and 2 females to the private ranch of A. V. Lisenby, Fresno.
- 1 male to the private park of John Zapp, Fresno.
- 2 males and 2 females to Alum Rock Park, San Jose.
- 1 male and 3 females to A. T. Hain, Cook, Cal., for the Vancouver Pinnacles Reservation.
- 1 male and 4 females to J. F. Dunne for liberation on his private ranch.
- 1 male and 5 females to the City Park, Santa Cruz.
- 4 females to Boulder Creek for the Big Basin reservation.
- 3 males and 9 females to the City of Sacramento for Del Paso Park.
- 2 males and 10 females to Petaluma for its public park.
- 2 males and 10 females to Willits, Mendocino County, for the ranch in Eden Valley in which Henry D. Nichols and Wm. G. Henshaw are interested.
- 3 males and 19 females to San Diego for Balboa Park.

TWENTY-SEVENTH EDITION

of the

**REGISTER AND DIRECTORY
OF PHYSICIANS**

Published by

THE MEDICAL SOCIETY

of the

STATE OF CALIFORNIA

is now on the press

and will be sent to

members within a

few weeks. This is

NOT THE DIRECTORY

referred to in the

post-card sent out

by the State Board

of Medical Exam-

iners.

ORIGINAL ARTICLES

CLINICAL RECORDS.

V. THE GENERAL OVERSIGHT AND FILING OF RECORDS.*

By GENEVIEVE L. CLARK, San Francisco.

The purpose of this concluding article on the clinical records of the University of California Hospital is mainly to describe the work of the Record Filing Room. The system which is essentially that in use in the Massachusetts General Hospital was originated by Mrs. Grace W. Myers,¹ to whose careful training the writer is greatly indebted. To meet the requirements of the University Hospital, however, a number of changes have been instituted, and it has seemed advisable, therefore, to outline briefly the complete system here used.

ADMISSION OF A PATIENT.

The blank admission slips (Fig. 1) are kept in the office in book-form, numbered consecutively; each number having two corresponding slips, one a carbon copy of the other. When a patient is admitted to the hospital, the admission slips and the graphic chart sheet are made out by the admitting clerk, who is solely responsible for the correctness of the data. Patients admitted when she is not on duty are later interviewed by her to insure cor-

rectness in data. The original admission slip remains in the book; the carbon copy is detached and sent with the graphic chart sheet to the ward with the patient. Thus, at entrance, the patient receives his hospital number by which he is referred to as long as he remains in the hospital, no change of number being made in case of transfer from one service to another. During the patient's stay the admission slip and graphic chart, together with the history and all accessory sheets, are kept in an aluminum folder in its pigeon-hole on the nurse's desk. These are not removed from the ward

TRANSFER OF A PATIENT.

When a patient is transferred from one service to another, for example from Medicine to Surgery, the medical intern fills out the proper places on the admission slip (Fig. 1), obtaining the signatures of the surgical resident and of the superintendent on duty. The admitting clerk then makes out a new title sheet which she sends with the admission slip to the surgical ward; and at the same time sends a notice of transfer (Fig. 2) to the record room. Only the admission slip is transferred with the patient; a new graphic chart, history, treatment record and laboratory sheet being started.

TRANSFER SLIP

Name		Date
Hosp. Number		
has been transferred to-day from		
Ward	Service	
to		
Ward	Service	

Im 12, '14

Fig. 2—Transfer Slip, 6½ x 10 cm.

The medical history is then removed from the ward folder, the chart is marked "Transferred" (exact time indicated) by the nurse, and the history is completed by the intern. The surgical intern may borrow the completed medical history until the following Tuesday noon when the medical intern takes it to the record room with the other discharges of that week. Then, if the surgical intern wishes to use the history further, he can get it from the custodian of records, after signing a receipt for it, and keep it on the surgical ward with the surgical history until the patient leaves the hospital.

DISCHARGE OF A PATIENT.

When a patient is discharged from the hospital the admission slip (Fig. 1) and treatment record, having been signed by the intern, are taken to the office by the nurse. The admission slip remains in the office but the treatment record is taken back to the ward as soon as it has been signed by the clerk on duty. No patient is allowed to leave the ward until the admission slip is signed by the intern, nor can he leave the hospital until the slip has been turned in at the office. In cases of death the admission slip is brought to the office immediately.

The history is then removed from the ward folder, the chart is marked "Discharged" (exact time indicated) by the nurse, and the history is completed by the intern. Before the history is ready to be turned in at the record room, it must be submitted to the visiting surgeon or physician

UNIVERSITY OF CALIFORNIA HOSPITAL

Name		Hospital No.	
Age	Sex	Ward	Service
Address			
Telephone No.			
Occupation			
Education			
Previous Illnesses			
Present Illness			
Diagnosis			
Treatment			
Discharge			

Fig. 1—Admission Slip, 16 x 19 cm.

rectness in data. The original admission slip remains in the book; the carbon copy is detached and sent with the graphic chart sheet to the ward with the patient. Thus, at entrance, the patient receives his hospital number by which he is referred to as long as he remains in the hospital, no change of number being made in case of transfer from one service to another. During the patient's stay the admission slip and graphic chart, together with the history and all accessory sheets, are kept in an aluminum folder in its pigeon-hole on the nurse's desk. These are not removed from the ward

* Fifth and concluding article describing the clinical record system in the University of California Hospital. An article by Dr. J. L. Whitney and one by Dr. E. S. Kilgore on related subjects appeared in the Boston Medical and Surgical Journal of November 18, 1915. Reprints of the series together with record forms, etc., will be sent on request.

who had charge of the case for his correction, diagnosis and signature. On Tuesday noon the completed histories of all patients either discharged from the hospital or transferred from one service to another during the previous week are handed in at the record room.

DAILY WORK OF THE RECORD ROOM.

The daily work consists of keeping up the admission and discharge books, and the service lists. The admission book contains the data of the admission slip (Fig. 1) and runs across two pages of a book, each line of which is numbered consecutively according to hospital numbers and represents the number of patients admitted to the hospital since the beginning of the institution. The discharge book contains the date of discharge, name, service and hospital number and runs across only one page of a book the lines of which are numbered consecutively and represent the number of discharges and the order in which they have occurred since the book was started. Thus, a daily record is kept of all patients admitted and discharged. The service lists (Fig. 3) are primarily

Surgical			Medical	
December 1			December 1	
10353 Hammer		d	10352 Fay	d
10354 Sead (to Med)	d		10354 Sead (to Surg)	d
10356 On Berry			10355 Campen	d
10358 Blake (to Med)	d		10357 Peabody	
10359 Adams		d	10358 Blake (to Surg)	d
10360 Wells		d	10361 Atkins	d

Fig. 3.—Service List.

used for the binding and represent all the patients admitted consecutively to each service either by admission to the hospital or by transfer from another service. They are compiled from the admission book and the transfer slips. By means of these lists it is possible to find any error in the admission book and to discover when a transfer slip has not been sent in from the office. They are temporary lists made on plain lined paper with the proper spaces ruled (Fig. 3) and are destroyed as soon as the records have been bound.

Each day the book of original admission slips is sent to the record room from the office, and from this are the admissions of the previous day added to the admission book and service lists.

Every morning the admission slips of all patients discharged the previous day are sent to the record room. From these slips are the date of discharge, diagnosis and condition added to the admission book and from these slips also is the discharge book filled out. Then after each name has been verified on the service lists by number, name and service, a "d" is placed after it and the admission slips are filed away according to service.

Whenever a transfer occurs from one service to another, for example from Medicine to Surgery, the transfer slip (Fig. 2) is sent immediately to the record room. After the patient's name on the Medical list a "d" is written in red ink (to show that the patient has been discharged from that service) and also "(to Surg.)" is added. Then the name is entered in its proper place on the surgical

list in red ink and "(from Med.)" is also added. In this way the lists of admissions to each service either by entrance to hospital or by transfer from another service are completed. The transfer slips are then filed away with the discharge slips according to service.

The pathological and bacteriological reports are sent to the record room as soon as they are completed. These are filed away according to service and number and kept until the histories are turned in, when they are filed with the proper records. The x-ray reports are copied into the body of the record by the x-ray assistant under the date taken. Important plates are also photographed and 5 x 8 cm. copies pasted in the records.

WEEKLY WORK OF THE RECORD ROOM.

It is the duty of the custodian to see that the records of all the patients discharged from the hospital or transferred to another service during the previous week are handed in at the record room; that they are complete and correct as to dates, numbers, etc.; that each case is catalogued according to both name and diagnosis; and that they are filed away according to service and hospital number. An exact routine for this work is strictly followed.

Tuesday noon each service hands in its records. The admission and transfer slips of these patients are filed according to service and number and for each slip there must be a corresponding history. As the records are brought in they are matched up with the slips, so that the intern may know immediately what histories are missing. A list of these missing histories is given him before he leaves the record room, to be attended to at once. Every record must be in before Saturday night.

The records of each service are taken separately and to each is done a certain amount of detail work.

1. *Arrangement.* The sheets of each history are arranged in the proper order and cleaned of every mark of untidiness. Any chart which is in too bad a condition to be made presentable is returned to the ward to be copied. However, this seldom happens, as the aluminum folders in which the charts and histories are kept in the wards are a great protection. Cases in which the patient remains in the hospital for several months necessarily require more than one graphic chart. The charts are made to be pasted into one continuous chart, which is done when the histories are prepared for binding. At this time the pathological and bacteriological reports are either pasted or copied in as the case may be. If the reports are already copied in they are compared before the originals are destroyed.

2. *Verification.* Next are the histories inspected. The data of the chart sheet is compared with the data of the admission slip and corrected accordingly. The dates of admission and discharge on the chart and history are made to agree with the admission slip. Then the history is inspected to see that all dates are carried forward from one page to another, that the daily notes are dated consecutively, that the final notes have been added,

nosis card (together with the radiographer's diagnosis below it in black), which is filed among the x-ray diagnoses.

The x-ray diagnosis catalog thus has the three-fold advantage of indicating (1) plates which show a given pathological condition as determined by the final diagnosis of the case, the usual function of such a catalog, (2) plates of a given condition in which the correct diagnosis was missed (assuming the final diagnosis to be correct) and (3) the radiographic diagnoses of a given condition which were wrongly (according to clinicians or pathologists) so made.

These x-ray diagnosis cards are filed in the x-ray room. Before filing, however, the assistant there copies the "variant diagnoses" on the envelopes of the respective plates, and they may then be laid aside for re-inspection and study by the radiographer.

7. *Temporary Filing.* After each history is put in a manila folder which is numbered in pencil with the corresponding hospital number, the records are ready to be filed. Histories of all services are kept separately, arranged according to hospital number and filed temporarily (i. e., till they are bound) in ordinary cabinet filing cases.

BINDING.

Records are usually kept unbound a year or more owing to the advantage of allowing them to be kept on the ward in cases of re-entry. One service is bound at a time.

First, the histories are checked off by the Service list which shows just what histories should follow consecutively either by admission or transfer. Were it not for these lists the custodian could not be absolutely sure that every history was in its place. The checking is done until a name is reached with no "d" opposite, which shows that the patient is still in the hospital.

Then the histories are counted off into volumes, allowing 350 sheets to a volume. If the 350th sheet completes a record bearing the same date as several other histories following, as many more sheets are counted off as will complete the records for that day. If the last record happens to be a transfer, the records ahead must be inspected for earlier dates.

The records are now arranged chronologically, according to admission to the service, which requires a change only in transferred cases. The order of numerical succession is chronological at date of admission but take, for instance, a patient who entered as a Medical case on a certain date and who was transferred several days later to Surgery. This patient will have two records, but, as stated previously, no change of hospital number will be made. The medical history will be in its proper place according to both hospital number and chronological succession but the surgical history, which starts at a later date, will be out of chronological succession when arranged by hospital number. Therefore, before the volume can be paged this record must be moved ahead, so that it will be the first record of the histories bearing the date when this surgical history began. For con-

venience in making the index of hospital numbers, a dummy sheet bearing the hospital number and the date to which the record has been set ahead is slipped in temporarily in place of the transferred history to remind the indexer that her next number will be found farther on in the volume and must not be omitted or the numerical arrangement will be incorrect. When a history is transferred from one volume to another a dummy cannot be used but the place where the record can be found is indicated in the index after the records return from the bindery, as will be explained later. Each volume is searched for these transferred cases and all moved to their proper places in order of date.

Next the volumes are numbered and then paged with a numbering machine.

Two typewritten indexes are made, one by hospital number and one by date and name. The first index consists of the hospital numbers of that volume arranged in strict numerical succession with the page on which each can be found in an opposite column. The other index reads across two pages and has the following headings: Date of admission, name, page, diagnosis, surgeon or physician (in charge of case), date of discharge, condition and remarks.

Then a title page is made giving the service, volume number, the dates covered, chief of service, assistants, and a space is left under the heading "Interns" for the signatures of those who were on duty during the dates covered by this volume.

Finally a "pattern" is made for the binder, showing him exactly what is to be printed on the back of the volume and where it is to be printed. These items are as follows: At the top, the year; below this a large letter representing the service (for instance, "M" for Medicine); with the volume number underneath. Directly below the center of the rub comes the inclusive hospital numbers and at the bottom, the inclusive dates. The volume is now ready for binding.

During the process of preparation a history can always be consulted if necessary but cannot be taken from the record room. The volumes are returned from the bindery in less than a week's time, it being understood that this is "rush" work. The binding is done in black buckram cloth with printing in gold.

When the volumes are returned from the bindery, the custodian immediately goes through them carefully to account for all records transferred from one volume to another. These are easily discovered by the number index, for their numbers being necessarily of the smallest denomination have been indexed first, and if the first number of the index is smaller than the first number noted on the back of the volume, it shows that a record has been transferred from an earlier volume. The number is then inserted in red ink in its proper place in the index of the earlier volume, followed by the words "See Vol. —, p. —." In this way every record of a service is accounted for and this avoids all difficulty in finding transferred cases.

The newly-bound volume is once more inspected for any history bearing on its chart sheet a re-

entry reference. All such references are looked up for the insertion of a cross reference, so that each history shall refer to those preceding and all that may have followed. The volume is now complete.

“FOLLOW-UP” WORK.

If a case requires follow-up work, when the patient leaves the hospital the visiting physician or surgeon who has charge of the case writes on the chart sheet in space provided for this purpose, the date when he wishes the patient to be sent for, whom to see, and the items particularly desirable to include in subsequent reports. When the patient leaves the hospital he is told that he will be sent for at this date.

Before the histories are filed each week, “follow-up” cards are written in the record room. These cards contain the patient’s name and address, service and number, and the date on which the patient is to be sent for, by which date are the cards filed. Each day a letter is sent out to those patients whose “follow-up” cards are filed under that date, reminding them to return for examination, if possible; or, if not, asking them to send a letter describing their condition. If the letter is returned unclaimed, another is sent out in care of the patient’s friend or relative whose address was secured on admission. If the letter is not returned and the patient neither writes nor reports, a second trial is made one month later.

When the patient returns, the “follow-up” letter (which he has been requested to bring) is presented at the front door. In the lower left hand corner of this letter is the reference to his history by service and number. An office messenger is sent for the record before the resident of the service which had charge of the case is notified. The resident after making an examination writes his additional notes at the end of the record and returns it to the record room with the “follow-up” letter. In cases where it is not necessary for the patient to report again, he writes “case complete” on the back of the letter; if not, he writes the date when the patient is to be sent for again. If the case is complete, the follow-up card is destroyed; otherwise the card is moved ahead to the date mentioned on the back of the letter when the patient is to be sent for again. All written answers to the follow-up letters are sent immediately to the record room where they are abstracted and the important notes added to the histories.

OPERATION BOOK.

The operation book has the following headings: Date of Operation, Hospital Number, Name, Ward, Service, Diagnosis, Anesthesia, Anesthetist, Operation, Surgeon and Assistants, Date of Discharge, and Result; and runs across two pages the lines of which are numbered consecutively to represent the operations performed since the beginning of the institution. This book is kept in the operating room in charge of the head nurse. It is her duty to see that all operations are entered each day, that the operation and diagnosis are written in by the first assistant at the operation before he leaves the operating room, and that the

date of discharge and result are entered later by the intern in charge of the case.

BORROWING OF RECORDS.

In cases of re-entry, unbound records may be borrowed by the resident staff until the patient leaves the hospital, during which time they must be kept in the ward folder with the current history. Bound records may be borrowed for use at the visit but cannot be kept out of the record room over night. Records borrowed for any other reason than for transfers or re-entries must be in the record room before the closing hour on the day borrowed. A slip must be signed (Fig. 6) before records can be taken from the record room.

No one who is not connected with the hospital may consult records without special permission from the Superintendent. If information from the histories is desired by insurance companies or outside physicians, the Superintendent sends for the history from which an abstract is made in the office.

RECORDS BORROWED

		Date
Service	Number	Vol.

For

The undersigned is responsible for the return of above Records on or before

Signed by

2m-12,'14

Fig. 6—Borrowing Slip, 7½ x 7½ cm.

No records except the recent weekly ones which are uncataloged are ever left out of the files over night. It is the duty of the custodian to see that every borrowed record is returned before closing hour and filed before she goes off duty. No record is ever allowed to be taken from the hospital except when ordered produced by a court of law. There are no exceptions to this rule.

It is felt that further advances can and should be made from time to time in the development of the hospital record system. As soon as help for the purpose is available it is intended to have a number of diagrams, temperature charts, blood charts, etc., copied on a large scale from selected records to be used for teaching purposes. Other contemplated extensions of the work are an operation catalog, systematic filing and cataloging in the record room of cardiographic records, pulse tracings, etc. To carry out properly the system described above a trained custodian is necessary.

For a hospital of 100 beds she should have the entire time of one assistant.

References.

- 1 Myers, G. W.: Care of Hospital Records—according to the Method of the Massachusetts General Hospital, Boston, Mass., International Hospital Record, 1911.
- 2 Whitney, J. L.: Diagnosis Nomenclature. Boston Med. & Surg. Jour., 1915, Nov. 18.
- 3 Kilgore, E. S.: Clinical Records in Relation to Teaching and Research; a Plan to Promote Conservation and Utilization of Material. Boston Med. & Surg. Jour., 1915, Nov. 18.

CASE RECORDING.

By H. D'ARCY POWER, M. D., San Francisco.

Presumably, the majority of people hold the ten commandments in respect, and at least profess an attempt to adhere to them. The same is true of case recording, but it is much to be feared that in both cases profession takes the place of compliance. One of our prominent statesmen has been accused of rediscovering the ten commandments and of being a distributor of platitudinous aphorisms. I might be accused of something similar in the subject matter of my paper to-night, as it is something over eighteen years ago when I first called the attention of the profession in California to the importance of the matter, and have repeatedly dwelt upon it since. But, if one may judge from the records of the average office, and from the experience which occasionally crops up in court evidence, there is still ample need for hammering away until the teaching sticks. The matter has been particularly impressed upon me in the last few months, because of the new call on members of the medical profession to be prepared at all times to meet court accusations, sometimes justifiable, more often the reverse, and to defend their professional ability and personal interests against unfounded claims. In one instance, in which it was my fate to be subpoenaed to give evidence in support of one of our colleagues accused, as I believe, unjustly of negligence in practice, no little of the misfortune which overtook him in an adverse decision was due to the entire absence of any record of his observations or confirmatory written evidence of the statements he made in court. If, as it would seem from that decision, any or all of us may be held to account and serious professional and monetary loss, by reason of our not informing our patients of the conditions we have discovered, or suspect, then it most clearly behooves us not only to give such information, but to show, by unquestionable records, that we have so done. The alteration in the conduct of medical work brought about by the accident insurance law, and the obligations it enforces, make a special demand in this direction, and it is in compliance with a general request that I once more dwell upon the best methods of making and keeping such records.

I would draw your attention to the importance of record keeping under three heads, its individual value, its legal value and its value as a basis of accumulating scientific data. The individual value of well taken and easily accessible case records becomes apparent to anyone who has office practice and is called upon, as we so frequently are, to rapidly recall the chief elements of a case returning to us after an interval, when, in the press

of a large practice, many of the leading features will necessarily have escaped our memory. Mr. John Doe, obsessed with the importance of his own complaints, is quite unable to understand that Doctor A should have forgotten half a dozen unimportant, but to him paramount symptoms which he may have given on his first visit. The physician who, with case card in hand, is able to anticipate the patient by quickly perceiving and rapidly inquiring as to his ailments, stands a much better chance of retaining the confidence of his patient than he who has to question him all over again.

Secondly, the legal value of case records is simply enormous. Patients' memories are fallacious and their imaginations large. Force of suggestion counts all the time, and statements detrimental to the physician that are sworn to in court, are often made in perfectly good faith, the complainants being the victims of their own or others' suggestions. The physician who has clearly defined and well recorded data of their condition at the time of visit, and the observations and treatment continued from time to time during the course of treatment, and particularly he who goes to the point of keeping photographic records, is in a position to refute beyond peradventure the majority of the statements whereon such cases are based. Moreover, the man who keeps case records in a systematic way, is frequently saved from failures in accuracy that are inherent in himself.

Thirdly, I would draw your attention to the great value of a large collection of case records as a source of scientific information. There is an altogether too widely diffused idea that, for a man to make advancement in medical science and add to its scope, it is necessary to have the facilities and advantages of a hospital clinic; but the work of some of our greatest investigators has been based essentially upon the carefully observed and digested data of private practice. I need only draw attention, as an example, to the monumental work of Mackenzie on the heart. If our cases were not only recorded, but analyzed from time to time, they would afford, at least in the case of large practices, most valuable data for use in the practice of the physician, but also for the writing of papers on individual diseases or symptoms.

MODES OF RECORDING.

In keeping medical records, and in fact, in all medical practice, I have always maintained that the only safe procedure is that which considers every case that comes under our care as having possibly unknown and serious elements, and the only method to discover such a rigid routine, to be automatically followed as part of our every day method of working. I realize that the acquirement of such a method is largely dependent upon careful and systematic training of the student in his third and later years of study; and, whatever facility I may have is due to the rigid enforcement of careful case taking in the clinical teaching in the school at which I had the privilege to study. I have to thank Sir Mitchell Bruce, one of the most painstaking analysts that I have ever met, for the automatic facility in recording which has been my practice throughout my medical life.

These things are not so easily attained in our post-graduate career, and should form the basis of ward teaching. It is with this in mind that I particularly commend the advice given by Dr. Kilgore, in his recent paper on the subject, published in recent numbers of the STATE JOURNAL. But the work which is thus demanded of a student is almost impossible in the case of the busy practitioner running a large practice; nor in the case of physicians dealing with institutional work is it always possible at the bedside to wade through the mass of information contained in the full report provided for by Dr. Kilgore's excellent method. What is required is a means of rapidly jotting

replace written statements as much as possible by graphic symbols. Fifthly, to provide a place for special reports, and sixthly to allow of stamp and photographic records. In addition, it is desirable that the visits made and prescriptions given should appear on the same chart. The particular form that I have at last chosen and have now for many years worked by, accompanies this paper (Fig. 1). I think I am right in claiming that it fulfills all these demands. By the use of signs, practically no space is wasted, while reasonable provision is made for conditions requiring fuller description. The mode of recording follows the natural line of investigation in the majority of cases, dealing first

21/1
 Name Burwell Ella Age 35 yrs Wt 140 Address _____ Date 3.22.15
 Occupation Domestic Nationality American Height 5'6" Weight normal 140 Present 13.5
 Pulse 76 Res 18 Temp 98.8 Bp pressure 140
DIGESTIVE SYSTEM - Teeth Int Tongue Red
 Appetite Ex Flatulency + + Nausea 0
 Vomit 0 Blood 0
 Stomach - size & posn. VC - Unchanged Content Unk
 Pain, nature of _____ location of _____ Time _____
 Intestinal pain _____ Tenderness _____
 Flatulence _____ Meteorism _____
 Stools No p b _____ Character _____ Blood _____
 Mucus _____ Hemorrhoids _____
 * TA. 95. F.H. 50. Immac +
RR. 3. Shows return 3 hrs p.m.
CIRCULATORY SYSTEM - Character of pulse _____
 Heart size _____ Position _____ Thrill _____
 I S Roce 2.8 Base _____
 I S R Base 2.8 R Base _____
 I S R Enlargement 2.8 L Base _____
 Arteries _____ Veins _____
 Droop _____ Cadence _____
BLOOD Haem 70% index 7 Coag Time -
 Rbc No 3.2 M Character 7
 White No 10,000 Pmc 76 Lymc 10
 Eosino 1.5
SPLEEN : 7
LIVER Size and posn 7
 Jaundice 0 Bile in stools 0
BONES : 7
JOINTS : 7
SKIN : 7
FAMILY HISTORY : Fgh Mgh B. 2gh
1 d in infancy. S ac 41-12-12
PAST HISTORY, AND HABITS : never un
bed & eqs with miscarriage 5 off
induced. drinks coffee + +
RESPIRATORY SYSTEM :
 Tonsils _____ Pharynx _____ Larynx _____
 Dyspnoea _____ Cough _____ Expect _____
 Blood _____ Bacilli _____
 Form and Expan of Thorax _____
 Expiration RA + _____ Resonance _____
 Friction _____ Crepitus _____
 Vocal fremit _____ Pectoriloquy _____
GENITO-URINARY SYSTEM Kidney _____
 Urine. Bo Gr 1092 Quant. 1800 Urea 259.
 Deposits Water + Sugar 0 Alb 0
 Pollakiuria 0 Prostate _____
 Menstruation h Pain slight Leucor slight
NERVOUS SYSTEM Temperament hervous
 Sleep 4 hr then wakes Headache frequent
 Reflexes, deeo + Super 0
 Sensation tactile 7 Pain neurally
 Social senses 0 about thing
 Motor Symms 0
 Gait _____ Vertigo occasional
 Since death of husband has worked in
 office, taken little exercise few holidays
 Suffer with flat dyspepsia, worse since
 beginning of year. Saw Brown after meal
 burning pain in epigastrium, ending in
 some eructations relieved by hot water
 or soda. Bowels never move except with
 medicine (Senna pills) Feels tired, sleeps
 badly and has lost weight. Is very
 nervous and fears she has heart
 disease because of palpitation pains
 about the chest and feels she cannot
 breathe.

Signs 0 = normal, 0 = absent, + and ++ = present or excess. - = too little < increasing > decreasing
v. c = see chart.

Diagnosis - Hypertrophy of the heart.

Fig. 1.

Name		Age		W B W		Address		Date	
Occupation		Nationality		Weight normal		Present			
Pulse	Resp	Temp	Bd pressure	Children Mo		Marriages		Nutrition	
DIGESTIVE SYSTEM —Teeth					RESPIRATORY SYSTEM				
Appetite		Fiatulency		Nausea		Tonsils		Pharynx	
Emilit		Blood		Dyspnoea		Cough		Expecto	
Stomach—size & posn		Oponts		Blood		Decilli			
Pain, nature of		Location of		Time		Form and Exten. of Thoras			
Intestine abn.		Tenderness		Expiration		Resonance			
Fiatulency		Meteorism		Friction		Orspitus			
Stools, No. & b		Character		Blapd		Vocal framit		Pectoriloan	
Mucus		Hæmorrhoids							
GENITO-URINARY SYSTEM —Kidney									
Urine, So. Or.		Quant.		p.d		Uree			
Deposit		Sugar		Alb					
Potakuria		Prostate							
Menstruation		Pain		Lucor					
NERVOUS SYSTEM —Temperament									
Sleeo		Headache							
Reflexes, deep		Super.							
Sensation tactile		Pain							
Special senses		Eye		Vid. mps					
Motor Rmps.									
Gait		Vertigo							
Vision R		L		Reflex R		L			
Field R		L		Insion R		L			
Muscle balance		Hct		stia					
		parasis							
Conjunctiva		Lids							
Pupils—Size		Shape							
		Reaction							
Media		Cornea		Liquous					
		Lens		Pituous					
Optalmoscope.									
PAST HISTORY, AND HABITS :									

Signs = normal, 0 = absent. + and ++ = present or excess. — low little < increasing > decreasing
 N. C. = see chart

Fig. 2.

down results, as the routine examination is made, and placing them in such relation as to enable the physician to rapidly grasp, on second inspection, the salient points of his findings.

Equally, in keeping a record for office use, there is need to be able to quickly perceive the important observations without wasting time on negative findings. Something like fifteen years ago I commenced to devise for myself a case recording chart that should fulfill the following requirements:

First, to give the maximum data in the minimum space. Secondly, to provide for extended observations on special points. Thirdly, to allow of the elision of negative findings. Fourthly, to

with the general symptoms, a knowledge of which is common to all cases; then, taking up under special headings the symptomatology of each of the great physiological functions so that oversight is almost an impossibility. It is not necessary to dwell on each of these in detail, but I would like to point out here that by the very short and easily recognized position of each important symptom, it is possible for a writer dealing with any given subject, let us say, for example, abdominal pain, to take a group of one hundred such cards and in a few minutes obtain the data involving the said symptom for further consideration and report.

In my practice I have these cards printed 6

inches by 10, and use the blank space on the left for writing in a synopsis of the complaint or special symptoms (vide Fig. 2). The back of the card is reserved for notes or charts as may be required. They are kept in a card index drawer of my desk and thus give me immediate access to a patient's record directly he enters. Furthermore they are most convenient to carry to the bedside, aiding the memory in obtaining a complete examination. In consultation this is very important as the conditions usually present are not conducive to note taking.

The next method of recording which I would draw your attention to is the very great value of photographic records taken to scale. In a paper on this subject two years ago, I gave the general principles underlying the use of photography in the medical sciences. I reproduce here the essentials necessary for the actual taking of photographs in the office, such photographs not only being used in my practice to record obvious physical change, such as dropsies, wasting muscles, neuromuscular conditions, skin lesions, but also to indicate the exact area and distribution of physical signs in the under-



Fig. 3.

Pulmonary Tuberculosis.
 // = Increased Conduction.
 XX = Crepitus.
 . . = Dulness.

Example of Clinical Record—Scale 1/10th.

lying organs; in the case of lung disease, the distribution of altered resonance, conduction of voice sounds and adventitious noises such as crepitus, is marked in signs on the surface by means of a carbon pencil, the patient photographed to scale, the whole time required being but a few minutes and the record of such absolutely unassailable character as to carry conviction, either to the patients themselves in later stages or to the court, in the event of disputes. A pending damage case for supposed disfigurement might well depend for its decision upon the presence or absence of such a record. My own preference is for making all photographic records, medical and surgical cases, stereoscopically, the trouble being no greater and the information conveyed being very much more precise and useful. The modus operandi of making such photographs is given at the end of this article. Yet another aspect of recording is present in the making of X-ray plates and copying them for case filing. The original X-ray plate is usually a large, and always a fragile affair. It is a matter of daily experience how, on inquiring for an X-ray plate,

taken at some previous time by possibly another practitioner, one is told that it was either lost or broken, so that prints should always be made. The great objection in this matter is that the average photographer is not able to reproduce on paper the subtleties of gradation that possibly distinguishes a misplaced kidney or a gall-stone from the surrounding tissues. Nor, as a matter of fact, is it much better when we commission them to reproduce the original plate as a lantern slide. The latter is coated with an emulsion that is nearly as incapable of reproducing correct gradation as ordinary photographic paper, and important differences in structure are commonly lost in diapositives so made. I have given a great deal of attention to this matter and can recommend a technic that, in my hands, enables me to reproduce on a plate of lantern plate size, every detail met with on the original negative. To do this, certain requirements must be satisfied. The original plate must be reduced in an apparatus providing for perfectly even illumination. Secondly, it must on no account be copied on a lantern plate but on an ordinary photographic plate, preferably a slow one such as Seed No. 23; and, in place of reducing it from, let us say, 14x17 to 3 1/4x4, it is better to choose an intermediate reduction, let us say 5x7, and then from this make either a reduction on to a process plate or glossy bromide paper. The final result is not a positive but a negative having the same exact gradations of light and shadow as the original plate.

And lastly, I would claim a place for the value of what may be called a collective record of all the data in cases in which there is any element of dispute or possibility of later contention. For example, some of us, particularly specialists, are apt to be involved in cases in which other opinions have been expressed, or are likely to be so, or in which contests may arise on future occasions. In such instances, for our own protection, we ought to be able to procure, at short notice, a copy of all data likely to be of importance to sustain our findings. A case is in my mind at the present time of just such a nature, namely, one in which a gentleman suffering with an incurable disease already having been under the care of one or more physicians, seeks a determination of his diagnosis at the hands of a specialist. His physical condition is such that an adverse finding is likely to be detrimental to him; on the other hand his position in society is such that an arranging of his affairs in the expectation of early demise is of importance to his friends and relatives. The specialist in the case, pressed by conflicting interests and opinions, urged on the one side to tell the exact status of the case, on the other to withhold what in his belief would be depressing and harmful information, is compelled to follow his own judgment, with certain condemnation from one side or the other. In this instance one physician, in writing, advises that the information should be withheld, another that the information should be communicated. All these facts, which would probably in the course of a few months be forgotten, might, in the event of a lawsuit be of paramount importance to the consultant. It is

a simple matter in such cases to assemble all the documents relating to the decision actually made together with that decision, and photograph them collectively on a small plate, which at any later stage may either be read with a lens or reproduced on a large scale, thus doing away with the necessity of lumbering up the record books and files with unnecessary documents. I would suggest that when this course is proceeded the date of the record be substantiated by enclosing in the assembled papers the head-lines with the date of a current newspaper.

I will conclude with a description of the essential points in the making of photographic records which will apply equally to medical, surgical or pathological subjects:

In all cases we must secure the following results:

1. Accurate drawing.
2. Perfect texture.
3. Correct scale throughout.

Accurate drawing is dependent on a correct relation of the camera to subject. The greater number of the photographs that I see taken by medical men show incorrect drawing from failure



Fig. 4.

to correctly place object and camera. The essential requirement is that the plane of the lens and that of the object shall be parallel to one another. If the object is to be taken from above, the camera must be suspended above it; if vertical, the camera likewise. The average photograph, such as the surface of chest or abdomen, is best taken by resting the camera on a flat surface such as the table, or on a camera stand with a fixed base. The center of the lens should be opposite the center of the area to be photographed. If the plane recede, then the camera should be tipped to an equal angle. Probably the most difficult matter is to so place the object, or part of the body, that the same position can easily be repeated on a future occasion. For the whole body this is comparatively easy. The patient should stand against the wall, with heels and occiput in contact. This will necessitate the shoulders being thrown out.

The abdomen is preferably taken in the same posture, but for tumors, the body should be on the back and the camera supported above the patient.

The thorax can well be taken with the patient sitting in a chair. (Figs. 3 and 4.) This is my own daily practice. Care is needed that the spine

is held rigid, that the shoulders are at the same level and the arms parallel. The position of the head should be such that the ears are equally visible on either side, and the root of the nose on a level with the lobes of the ears. Though this may give slightly altered relations between different individuals, it secures equality of position in succeeding photographs of the same. Photographs to show pathologic conditions of the extremities are difficult and the position must be determined by the peculiarities of the case. For the hands a piece of (corrugated) pasteboard placed in front of the chest on which the hands are extended affords one of the most satisfactory and simply attained arrangements.

Finally, we must remember that with moving surfaces, such as those of the chest and abdomen, the drawing will vary with the phase of respiration. Therefore the practice of always exposing at a given stage should be adopted. My rule is to call for three deep respirations, then stop the patient midway in expiration and direct the breath to be held during the exposure.

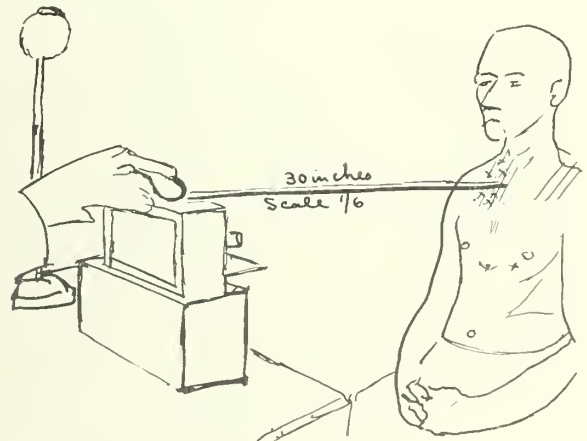


Fig. 5.

Modeling and Texture. Lighting.—While drawing is chiefly dependent on posture, texture and surface relief are chiefly a matter of illumination. Principles, not rules, are our only guides here. Surface relief is dependent on the formation of shadows. A considerable elevation of the chest or abdomen will entirely fail to show on a photograph if the light falls on it at right angles, so that no shadow is formed. It may, on the other hand, be greatly exaggerated by a too oblique illumination and the only rule is to place the patient in reference to the light that the desired effect is plainly visible on the ground glass, or to the eye of the worker when viewed from a position near the lens. Sharpness of texture is not only a matter of direction of light, but also of diffusion; the nearer the source of illumination approaches a point the better will texture be represented. For this reason, I am much in favor of the use of flashlight for photographs, such as those of skin, in which texture is the main consideration. Furthermore, the use of flashlight permits of photographs of moving surfaces, such

as the tongue. With the enclosed flash, such as that of the Victor apparatus and others, it is possible to use the apparatus without causing any smoke in the office or ward.

Scale.—In the use of photography for scientific purposes, no point is more important than the provision for accurate measurement of the parts depicted. There are two ways of obtaining this result. One is to take the whole picture at a given scale of reduction; the other is to include a measuring rod or tape in the group by reference to which the size of parts may be determined. As usually employed, both methods frequently fail in accuracy. In the first case, with a short focus lens used at a short distance from an object such as the human body, the far and near planes depart considerably from the standard of reduction, which must necessarily have been determined for a flat surface. By the second method, truth is only obtained by applying the image of the measure to the plane of the surface on which it is lying. Also, I would note that the common practice of using the regulation tape measure gives an image that is frequently illegible. The following method will

1/6th, and skin texture, small tumors, tongue, eyes, etc., at 1/4th. Place on a well-lighted wall a three-foot flat rule. Set up the camera in front of it and move it until the image of the rod in sharp focus occupies 1½ inches on the ground glass. Mark on the base-board the position of the bellows. Measure the distance between the camera and the rod and inscribe this beside the mark on the base-board. Now approach the rod until its image covers 3 inches in focus. Again mark base-board and measure and inscribe distance of rod from camera. Repeat this procedure so that 18 inches on the rod occupies 3 inches on the ground glass, and lastly that 12 inches occupies the same. When the base-board has been marked and the distances recorded, we are saved all future focusing troubles—and these are among the commoner causes of failure—and our images will in a general way be true to the chosen scale. Only in the case of the larger images, the 1/6th and 1/4th, it may happen that if the image is that of a receding plane such as the thorax, a difference of scale between the near and far planes will appear. If only one of these is required in the

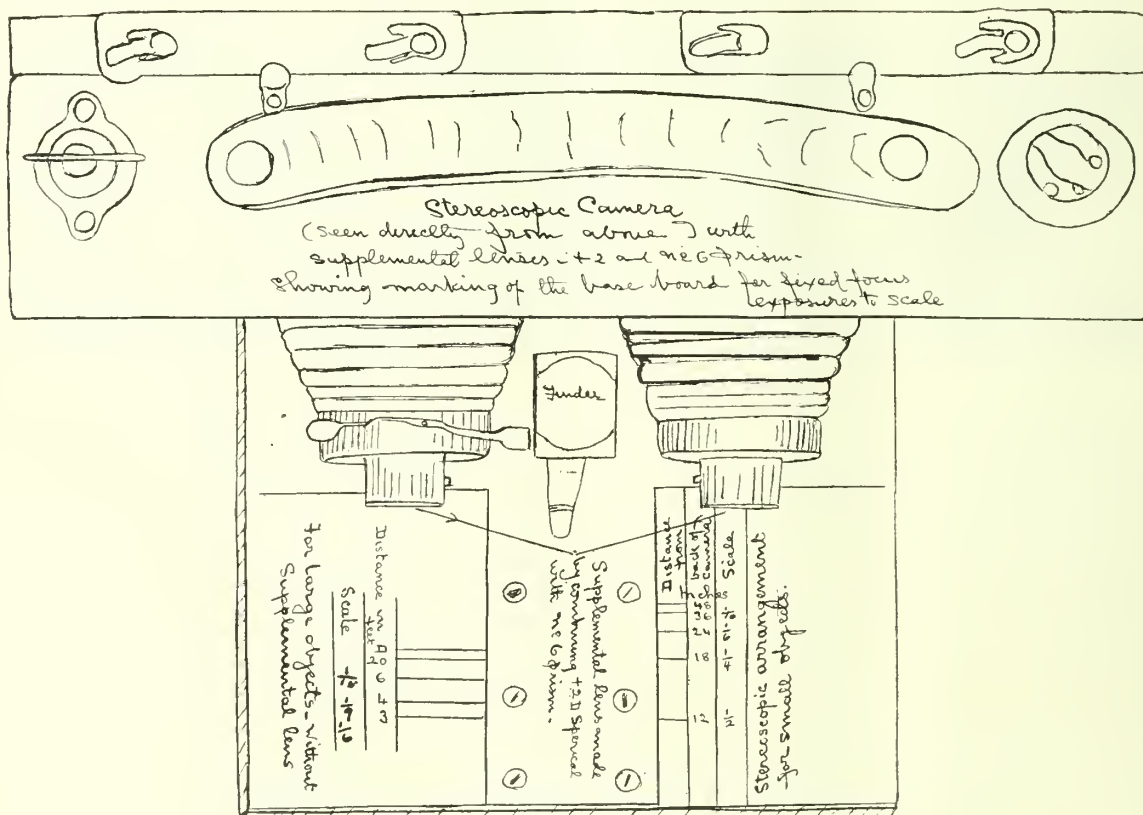


Fig. 6.
Stereoscopy in Skin Disease.
Scale 1/4.

give good general accuracy and provide for the correction of any secondary error. First, arrange the camera to take at four scales of reduction. These will depend on the size of camera used. I employ a small camera—4½ by 3½ inches. On the ground glass a six-foot man would occupy 3 inches at a reduction of 1/20th. The thorax, abdomen or head can be taken at 1/5th, or better,

record, we simply measure our distance from the lens to the desired surface and that will then be in true measure. But if the record is to include both far and near planes, we must take our measure to a point 1/3 behind the front plane and secure depth of focus by stopping down the lens. The resulting picture will look correct but will measure too much in the near plane and too little

in the distant one. Usually the error is trifling, but its correction is very simply provided for. If a strip of 1 inch surgical plaster be stuck on the body in the direction of the receding plane, the variation in the width of its image will provide the means of correcting any error due to perspective. And here let me say that those who do not care to fix their cameras for definite reductions can always insure a means of correct measurement by the use of surgical plaster. It is cut by machinery to accurate width. A piece of known width stuck on the surface to be photographed provides a sure scale. Personally, I keep in my card case a few pieces of lantern slide binding, cut to 4 inches (10 cm.) long. It is $\frac{1}{2}$ inch wide and very black. It always photographs distinctly and is most useful.

General Technics.—I wish to conclude this paper by a few remarks on camera, plates, and papers. It is an entire mistake to imagine that expensive apparatus is essential or even valuable in medical photography. The fact is that in order to get the depth of focus we need, we are compelled to work with short focus lenses at small aperture, and under such conditions any kind of a lens will give sharp definition. There are just two conditions really essential. The camera should be strong and capable of enough extension to work at a scale of reduction of at least $\frac{1}{4}$ the actual size. Many useful cheap cameras fail in this latter respect but can be so used by the use of a supplemental lens. Such lenses are sold under the name of "portrait attachments," or can be readily ground from ordinary periscopic spectacle lenses, + 1 or 2 being usually sufficient. A focusing screen is not at all essential. It is much better to work by measurement at fixed distances than to attempt to focus. If the camera does not possess a focusing screen it will be necessary to remove the back and place a piece of ground glass in its place while making the observations previously described. All plate cameras have, however, a focusing screen, and I strongly

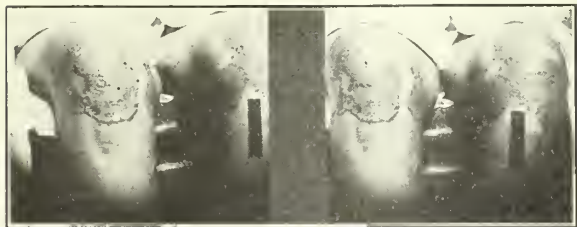


Fig. 7.

advise the use of plates in preference to films. There are several reasons for this. Plates are easier to handle, they can be obtained in various grades and with special qualities. Thus, much of the material we photograph is yellow or reddish in tint. The ordinary plate is quite insensitive to these colors, and the plate should be a panchromatic plate, which is specially sensitized. It is best used with a three time color screen, which cuts out the excess of blue rays. In development the object should be to obtain good detail and avoid unnatural contrasts. This is best attained by full ex-

posure and development with a rather weak developer. I use Rodinal, which is the simplest of all preparations to employ. Prints are best made on Glossy Bromide Paper, which is not so contrasty as the gaslight varieties. There is a current superstition that prints for half-tone reproduction must be made on "Solio"—this is a thing of the past.

Stereograms.—It stands to reason that records presenting the aspect of three dimensions afford much more information than pictures in two. There are many conditions that are very difficult or impossible to show by an ordinary photograph that are perfectly clear in a stereogram; thus, among skin lesions, macules and flat papules are cases in point; varying muscle tonus as seen in facial palsy; surface protrusions, as in aneurysms and hernias, often quite unrecognizable in a flat picture, are shown in full relief in a stereogram. The chief difficulty at the present time is in the matter of apparatus. The average stereoscopic camera is provided with short focus lenses and does not take objects nearer the camera than six feet. At this distance the scale of reduction is about $\frac{1}{20}$ and this is altogether too small to show skin conditions or small changes of contour. If the bellows length is increased and the object approached closer, the angle of divergence between the two images becomes so acute that they fall outside the limits of the plate. Some three years ago, I showed (*vide Camera Craft*) how this can be rectified by the addition of +2 spectacle lens and No. 6 prisms. With a Stereoscopic camera so modified, I take all my ordinary clinical photographs with ease and rapidity. I can take at any desired scale of reduction from $\frac{1}{20}$ to $\frac{1}{3}$ natural size. The resulting pictures can be viewed with a stereoscope, or, with a little practice, seen in relief by the unaided eye. (Fig. 6.)

A STUDY IN HANDICAPS*

By FREDERICK GRAZER, M. D., and F. F. GUNDRUM, M. D., Sacramento.

At a meeting of the Sacramento County Hospital staff about a year and a half ago a new interne asked the question, "Why do people have to come to the County Hospital anyway?" Thereupon succeeded a discussion among us and very unexpectedly we found a considerable divergence of opinion. The question, of course, resolved itself to whether the economic stress in Sacramento County had become acute enough that an average individual was unable to take care of his medical wants, or whether the most of our clientele had some additional burden affecting earning capacity, that is were "handicapped." In order to investigate this question we undertook a short clinical and social history from entrants to the hospital together with a superficial physical examination. It was impossible to secure data from all admitted consecutively. We obtained, however, records of 1000 patients between July 1, 1914, and September 1, 1915, during which time 3,696 were received. The cases studied were taken hap-hazard when

* Read before the California Northern District Medical Society, November 9, 1915.

there was time. The series, however, does not accurately represent the hospital admissions for these reasons. All acute and accident cases which required immediate attention could not, of course, be held up in the admission room for questioning. All children were excluded as it seemed unlikely they would furnish any data of interest. Of the 3,696 admissions 2,789 were male and 907 female, a ratio of 3 to 1, whereas of the 1000 studied 975 were male and 25 female. This preponderance of males undoubtedly increases certain handicaps which appear in rather surprising numbers. In other words, our study has had more to do with men, most of whom are single, and very many of whom are "Hospital Nomads." Not a few of these indeed, have a "system" whereby one winter is spent in the Sacramento Hospital, the next in Amador, next in El Dorado, etc. It is among these that we would expect a greater proportion of "handicaps"; but it is also these who, exclusive of accidents and acute diseases, keep the hospital full. Our method of investigation was briefly as follows: Upon arrival a short history was taken and superficial physical examination was made to include the following factors: Sex, age, nativity, social conditions, mentality, education, knowledge of English, physical development, vision, hearing, speech, deformity, certain habits, and certain diseases. The habits investigated were alcohol, tobacco and drug taking; the diseases were tuberculosis, epilepsy, syphilis and gonorrhea. Old age, poor mentality, poor education, poor knowledge of English, physical feebleness, deafness, etc., sufficiently great to constitute a definite drawback in making a livelihood were considered "handicaps." The entrants were then classified as "unhandicapped" or "handicapped." We tabulated also, nativity, social condition, and gonorrheal infection for the satisfaction of our own curiosity not from the expectation of demonstrating a handicap along those lines. There may be a doubt as to how much of a handicap "poor education" is to a laborer. It seems fair to us, however, to include our group as handicapped inasmuch as a fair number were unable to read and write and none had passed the sixth grade.

Results: One hundred and forty-nine were admitted with no handicaps. The remaining 851 presented one or more impairments to earning capacity, divided as follows:

Age: Four hundred and eight were over 50. We fixed upon 50 as a limit beyond which age would constitute a handicap because early in the series we found that nearly all of our entrants over 50 showed a considerable physical enfeeblement.

Mentality: There were 174 of frankly defective mentality.

Education: Five hundred and fifty-nine were "poorly educated."

Knowledge of English: One hundred and eleven were foreigners with insufficient knowledge of English to understand or to make themselves properly understood.

Physical Development: Four hundred and fifty-nine patients were in such poor physical condition

as to be incapable of active physical work. This large proportion is due undoubtedly to a high percentage of old men admitted to this institution which itself has the "handicap" of being an almshouse as well as a hospital.

Vision: One hundred and eighty-eight were seriously defective.

Hearing: One hundred and sixty-one were deaf.

Speech: One hundred and twenty-five had difficulties with speech. This includes the 111 who did not speak English and 14 whose enunciation was bad.

Crippled: Forty-nine patients were crippled.

Habits: Alcohol: Upon the subject of alcohol there is much acute difference of opinion among the populace at large, and, although to a somewhat less extent, among the profession as well. We classified our material as excessive, moderate, and non-alcoholic. About the third group there can be no difference of opinion: 132 confessed themselves not drinkers; 378 drank excessively enough so that they were not able to obtain or hold work readily on account of drunkenness; 490 were classified as moderate drinkers because, first, their drinking was confined largely to wines and beers; second, they did not go on sprees and did not lose time or jobs on account of drink.

Tobacco: Thirty-three patients showed symptoms of nicotinism—we called them excessive smokers; 166 did not use tobacco; 801 used tobacco habitually without any objective findings.

Drugs: Thirteen admitted the opium and three the cocaine habit. These figures are undoubtedly too low because drug habitues are notorious liars and it is often possible for a morphinist to remain for a considerable time without detection in a hospital to which visitors are admitted.

Diseases: Epilepsy: Three patients, an unexpectedly low figure.

Tuberculosis: One hundred and six showed tuberculosis sufficiently developed to be easily recognized. This number is also too low because a more careful physical examination would often have revealed active tuberculous areas in patients admitted for other things.

Syphilis: One hundred and fifty patients had or had had syphilis. We classified this infection as a handicap, inasmuch as very few of our patients could lay reasonable claim to having been cured.

Gonorrhea: Four hundred and seventy patients admitted gonorrhea, 47 per cent. of the total. We classified this group as a matter of personal interest. Loss of earning ability following Neisser's organism was apparently inconsequential compared with the other handicaps that we have under consideration.

Nativity: Four hundred and fifteen were foreign, 485 American born.

Social Condition: Seven hundred and nine single, 114 married, 137 widowed, and 27 divorced. The number of singles is too high because of patients denying existing family relations for various reasons.

CONCLUSIONS.

No. 1. Of 1000 entrants 851 were "handicapped." Among these 851 patients 2809 handi-

caps appeared, an average of 3.3 per individual: 1247 (44%) of these handicaps were possibly remediable; 1562 (56%), 1.8 per individual, were probably irremediable. We hoped to be able to get figures on transmissibility, but soon found this phase of the question too complex. We can, therefore, present only our 150 luetics and about 75 of the mental defectives, as instances where the transmission of the handicap might fairly be expected.

We hesitated at first to present to this Society the results of an inquiry which so manifestly borders upon the sociologic. We are but too prone to forget the very intimate relation of the medical profession to many sociologic questions. It seems to be true that the modern "social movement," so-called, has been initiated largely by others, although the medical men of the country have been in a position to learn and understand the origin of this movement perhaps better than anyone else. There has been in the past twenty years a very great extension of group regulation of private affairs. The medical profession as a whole is vitally interested in many phases of the problem. We are now operating under the excellent "Workmen's Compensation Law." The questions of social insurance, sickness insurance, old age pensions, etc., are undergoing active discussion and investigation, the former by a State Commission. This is to be expected as a logical stage of social evolution; for just as soon as man has come to live in groups, modification of the conduct of each individual of the group is begun. At first, of course, this is primitive, but later as the group becomes larger and the interrelation of units more complex, regulation is necessarily extended to cover an ever-increasing proportion of the activities of the individual. All attempts to extend this regulatory function have been as a matter of course opposed. As the group develops social intelligence, however, a proportionate regulation ensues. The true history of civilization does not consist of the recital of the "War of the Roses" or of the "Napoleonic Campaigns." It is the story of the regulation done by the various groups of men for the advancement of those groups. By whatever train of thought we approach the question of social regulation of individual affairs, we cannot, if we but follow the matter to its logical end, escape from the consideration of some form of regulation of humanity itself. It is upon the quality of the human units that the continuance of civilization depends. The vast majority of other regulations adopted by civilized men have concerned themselves with food supplies, water supplies, military necessities, etc. We can find without difficulty instances of high civilization going to pieces from within because the talented group who built the edifice left no descendant of sufficient ability to carry on the necessary machinery.

DEPARTMENT OF PSYCHOLOGY IN LOS ANGELES CITY SCHOOLS—A STUDY OF THE MENTALLY DIFFERENT.

By LAURA B. BENNETT, M. D.,
Psychological Examiner, Los Angeles.

The psychological department of our schools is an extension of the medical supervision of pupils to include not only the detection of physical defects and contagious diseases, but also the scientific examination and study of abnormal mental and moral development.

A knowledge of the mental development of the child is quite as essential for the determination of his educational activities as is that of his physical development, and especially is this true of the mental deviate.

While the work of this department is chiefly with the mentally deficient, it is also with the mentally peculiar and precocious, the incorrigible and misfit, the truant and delinquent, and with those with nervous disorder and disease—the epileptic, choreic, hysteric, etc.

Its purpose is to inquire into the cause of these abnormal states, to study systematically the conditions found and to advise or recommend the training, treatment or education seemingly best adapted to the child's progress.

Through the Binet-Simon and other psychological tests we are able to analyze, measure and rank the mentality of the individual examined.

This method is not by any means an infallible mental measuring stick, as some examiners would have it appear, for the mind is immeasurable, and even after the expert has made the most complete exploration from every known angle, there remains the "residuum that cannot be resolved."

We have, however, in these tests a practical means whereby we may determine whether a child is normal, supernormal or defective.

The Yerkes-Bridges Point Scale, combining the Binet-Simon tests with others from various sources, has been found by the writer to be superior to the Binet alone. It gives fuller information of the chief mental functions of the individual with less time and work. It allows partial credit for an incomplete answer. It is more reliable for pupils beyond the age of ten and it takes into account the social, industrial and racial differences.

The scale presents twenty tests, with their subdivisions, for measuring the principal mental functions, applicable to pre-adolescents over three years of age. One hundred credits are allowed as full value of these tests, and the credits obtained in an examination are interpreted from tables of norms.

The result of an examination may be expressed in various ways. For example: A nineteen-year-old adult examined, scores 56 points. The reference table shows the score of a normal English-speaking adult to be 90 points, and it also indicates 56 points to be the average of a boy of only 9.1 years.

Then we may report him thus: Chronological age, 19 years; score, 56; norm, 90; coefficient of intellectual ability, 62; mental age, 9.1 yrs.; mental status, 9.9 yrs. (difference between mental age and chronological age).

**MEDICAL SOCIETY
STATE OF CALIFORNIA
MEETS IN FRESNO
APRIL 18, 19, 20
1916**

Following are the Mental Processes tested with credits:

MENTAL PROCESSES	CREDITS
Motor coordination.....	4
Perception (visual).....	13
Discrimination (visual).....	1
Discrimination (kinaesthetic).....	4
Association	4
Suggestibility	3
Memory	4
Memory (auditory).....	11
Memory (visual).....	4
Imagination	4
Judgment (aesthetic).....	3
Judgment (practical).....	8
Judgment (logical).....	11
Analysis and comparison.....	6
Ideation	20

When a more thorough investigation is desired than these tests make available, that is, if we wish to measure a specialized defect or a superior ability with greater accuracy, then we make use of laboratory materials and apparatus for that purpose.

SUPPLEMENTARY TESTS.

For determination of motor ability, the tapping board for testing quickness and rate of movement; the baseboard for steadiness of movement, etc.

Estimation of sensory ability, tuning forks for pitch discrimination; weights for pressure sense; esthesiometer for cutaneous impressions, etc.

Perception,—form boards.

Range of attention or mental grasp,—tachistoscope.

Association,—part-whole and opposite tests.

Creative imagery,—Ebbinghaus completion test and puzzles, etc.

Logical reasoning,—mathematical problems.

Ability to acquire new motor coordinations,—mirror drawing.

Facility and accuracy in mental acquirement,—association of a known new symbol with an unknown.

Memory,—narrative, aussage, test, etc., etc.

At least 10 per cent. of our school children are in need of a general mental classification now. They are so mentally different from the others that they cannot progress in the ordinary grades. Many of them are repeating their grade three, four and even five times at an enormous expense to the State, for they not only do not progress, but they hinder others and consume the teachers' time and energy uselessly. If they are allowed to drift along misunderstood and with their weakness uncared for, most of them will further degenerate and some of them later will become the criminal and undesirable dependent. A large number of these repeaters of grades, probably twenty per cent. of them, belong somewhere in the following classification of the feeble-minded:

MENTAL DEVELOPMENT.

Age at or Over	Years	Classification
6	Practically none	Low-grade idiots
6	1	High-grade idiots
8	2	Low-grade imbeciles
10	2-4	Middle-grade imbeciles
12	4-6	High-grade imbeciles
12	6-8	Low-grade morons
14	8-10	Middle-grade morons
14	10-12	High-grade morons

Important as may be the proper care of the lower grades of the feeble-minded, yet it is with the higher grades—the morons—that we are most concerned. The high-grade moron generally passes as normal. His associates regard him, perhaps as a little dull or unpliant in some ways, and it is only after he goes out into the larger world than home or school, that his limitations become seriously defined. Then we find him shifting from one kind of work to another and making a failure of everything he undertakes. He cannot compete with others. He is a reed before the wind and falls a weakling to everything in his path. What will become of him depends almost entirely on the environment he falls into. If he remains in indifferent environment, he becomes a harmless good-for-nothing, earning an uncertain living, or more likely, depending on relatives or friends or the state. If he drifts into evil environment, he becomes the dupe of criminals, and will probably bear the punishment of crime either instigated or committed by them. If a sweet fate tosses him into the path of some love-struck maiden, he may even marry into good stock and continue to dilute the race with his kind of degeneracy.

But if a kind fate allows the psycho-examiner to find him early enough, his incapacity is discovered, and it is probably related to an hereditary history which gives this weakling no more power to make a success of his work than it gives him a right to propagate his kind.

The psychologist finds him but twelve years old mentally and with a capacity for only the simplest kind of work. His parents are apprised of his limitations and needs, with the result that he is given a simple industrial training that enables him to fill his little niche in the world with some degree of usefulness and out of harm's way.

It is of great consequence to the community as well as to the defective, that he be placed under early training before the weak nervous centers deteriorate and become too unresponsive to stimuli. The earlier the defective child comes to the skilled teacher, the better for both.

Our special schools provide this training to a limited extent. It is essentially manual. In the academic work all lessons are short and enlivening to the senses, with much repetition to help fix the impressions on the dull brain cells; and frequent rest and change are given, for these children have little nerve reserve and fatigue easily.

But it matters not how much we may do for the defective child, he can never rise above his

mental level. It is fixed; for the cause, as we know, is always something that has permanently injured or hindered the development of the higher mental centers and their associating fibres, and left them powerless for normal functioning.

The best we can do for the present generation is to give such training as will help to establish habits of industry, usefulness, morality and honesty.

The real problem is how to prevent the re-appearance of this mental blight in future generations. It is estimated that there are 400,000 feeble-minded in the United States, and that two-thirds of this is caused by heredity. It would seem then, that the logical solution of the problem must come through the teaching of the principles of eugenics. Mendel's law as applied to feeble-mindedness may be briefly stated thus:

When both father and mother are normal, and their ancestors normal, all their children will be normal, and they cannot transmit feeble-mindedness.

When both father and mother are feeble-minded, all their children will be feeble-minded.

When one parent is normal, with no feeble-minded ancestor, and the other parent is feeble-minded, their children may not be feeble-minded but the defect will appear in the following generation.

Equally important as the mentally deficient child is the early recognition of the child with unfavorable temperamental qualities and constitutional conditions, indicating nervous affections and mental instability. Such recognition may enable the examiner by judicious and timely treatment, to counteract or correct the defect, or possibly prevent its development; and this may mean to the child the difference between future health and disease.

But if the defect is allowed to develop, the child may deteriorate into a superior type of defective—a type that blends so imperceptibly into the adult standard that under ordinary conditions it passes as normal.

Such children do not react normally to average moral or intellectual education. The fault, probably, is with their weak or defective nerve cells, which are of such a nature that they fail to carry external impressions with sufficient force to reach the brain centers, or, if the impressions reach there, the cells of the cortex are too weak to retain them.

Many of this type are the youths who have mind enough to get into criminality and not enough to keep out. In other words, they become criminal by defect. Without higher centers with strength sufficient to inhibit, they are led by their lower instinctive impulses and when the restraining influence of parent or teacher is gone, they become the irresponsible criminals. Whose fault is it? You are a responsible being, because through a normal nervous system your mind is in control of your body; but if because of a defective or poorly developed nervous system some one fails, who is to blame? Not the unfortunate defective, surely, but the cause that made him so, or left him so—that failed to develop in him resistance to environment, or failed to make for him environment that he could resist and adapt to his existence.

It is a fact that under favorable conditions these undesirable characteristics may diminish or entirely disappear.

The treatment consists in the application of such measures as will stimulate and strengthen the weak nerve cells into healthy activity—to improve and enlarge the functions of the higher centers which are lacking. This is disciplinary education,—moral, intellectual and hygienic.

Another type of interest to the psychologist is the pupil of superior intelligence and marked talent. He must be found early and guided along lines of activity suited to his capacity, thus to improve and conserve his potential powers and direct his energies into their broadest fields of usefulness.

While the psychological tests have not attained to any great degree of accuracy with this latter type, they are of considerable value in finding superiority of the higher psychic functions. To find these and other types of children equally in need, and to prescribe their treatment is not to be expected even of the expert teacher. It is a difficult and painstaking task and exercises the resources even of the psycho-physician.

When psychological laboratories become fully operative in doing what they can do and ought to do for our schools, mental deficiency will be early and rightly segregated and trained with better understanding. Truancy and delinquency will be more intelligently studied and more sanely managed. Degeneracy and criminality will be decreased. A large amount of energy hitherto wasted will be conserved for profitable fields of operation. Individual training will receive greater attention. Early fitness for vocational training will be determined and its blessings will be more widely distributed. Special gifts and aptitudes will more surely find their proper channels of expression. Application of the principles of eugenics will become more general as the main root of most mental and moral troubles is laid bare. Educational activities will become more rational and natural for all, and increased efficiency will characterize education as a whole.

CONCRETIONS OF THE SPLEEN.

By BENJAMIN JABLONS, M. D., San Francisco.

Spleen stones, although of little practical importance, are interesting because of the infrequency of their occurrence. The factors underlying their formation, and the character of the stones themselves lend added interest to this pathological entity. The specimen in question was found at autopsy, and like the cases previously reported was an accessory finding only. The spleen stones in the case of the patient reported below, as well as those cited in the literature, played no causal role in the death of either of these individuals.

In a thorough search of the literature, there have been only two cases previously reported.

Sailer presented before the Pathological Society of Philadelphia in 1898, a spleen which contained one calculus, that he had found at autopsy. The patient from whom it was removed was an old man, the cause of death not being mentioned. The stone was 0.5 cm. in diameter and its surface

was smooth. He considered it to be a calcified thrombus. He gives no review of any preceding literature, but states that Orth mentions the condition as having been occasionally met with.

Dufour in the "Bulletin et Memoirs de la Societe Medecale des Hopitaux de Paris" reported a case of spleen concretions that he had also encountered at autopsy. The patient was an old man who had been suffering from chronic bronchitis and emphysema, and at autopsy a healed pulmonary tuberculosis that had been followed by pulmonary sclerosis was found. The spleen was apparently normal, but one section contained six small, hard nodules which were easily enucleated. The average size of the stones was that of a cherry pit, and they were each surrounded by a thick membrane. On chemical examination, the stones were found to consist of the salts of calcium, magnesium and sodium, the carbonates and phosphates predominating.

The liver contained one stone which was about the size of the head of a pin, and similar in character to those observed in the spleen. In discussing the case Dufour considers the stones to be calcified miliary tubercles of the spleen, although he does not rule out the possibility of their being

have any bearing on the splenic findings. The physical examination revealed the presence of a marked right lateral scoliosis with roughened breath sound on the left side. The abdomen was not enlarged or tender, and the spleen was not enlarged as determinable by percussion or palpation.

The penis was entirely involved by a new growth which had metastasized to the right and the left inguinal glands. The lower extremities were not edematous nor could any varicosities be demonstrated. On May 31st a complete removal of the penis with both the inguinal and the lumbar glands, was followed by an attempt at a radical cure for an existing left inguinal hernia. Previous to operation he was found to have a slight glycosuria which disappeared under dietetic treatment. The patient died on the 20th of June as the result of a secondary hemorrhage.

The findings at autopsy performed June 20th, were as follows: Aged male of much less than medium height. Status after block dissection for carcinoma of penis and removal of iliac glands. Marked emaciation present, rigor mortis absent. Post-mortem stasis present but not marked. Large undermined ulcer, about the size of a silver dollar, is present over sacro-coccygeal junction.

Large irregularly triangular wound present over pubic symphysis and adjacent bony structures. The wound is dry and the edges are undermined especially over superior and inferior aspects.



Fig. 1.

calcified hydatid cysts. The presence of pulmonary tuberculosis and the simultaneous presence of the spleen and liver stones are to him sufficient presumptive evidence of the former etiology. The greater amount of the splenic involvement, according to Dufour, points to the role that circulatory infection may have played in their causation. The X-ray examination of the stones confirmed the concentric nature of the calcareous deposits.

The patient G. D. in whom likewise spleen concretions were found, was admitted to the City and County Hospital of San Francisco, complaining of a swelling and ulceration of the penis beginning 10 months previous to admission. With the exception of an attack of yellow fever 40 years previously, there is nothing in the history that may

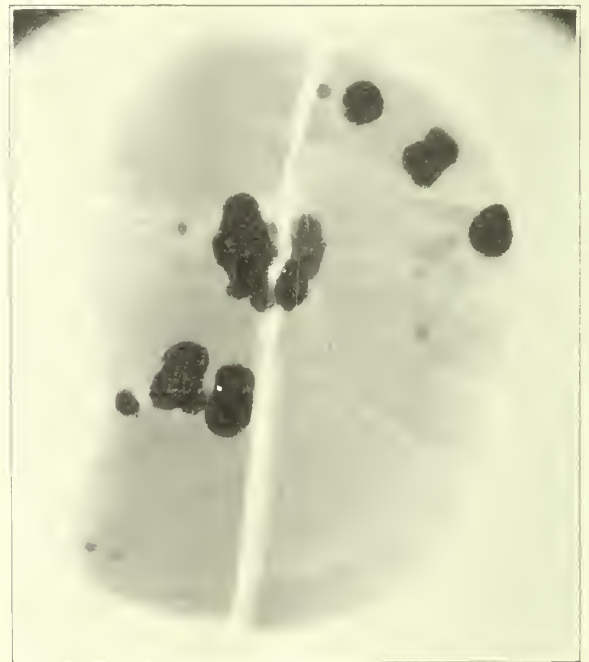


Fig. 2.

Slight marginal blackish discoloration of wound. Diaphragm extends up to the fourth rib on the right side and to the fifth rib on the left side. Appendix normal. Spleen slightly enlarged. Gall bladder fixed by numerous adhesions. Old pericholecystitis present. Both lungs collapse on opening the chest cavity. Right lung markedly adherent to the chest wall. Complete atelectasis of the posterior surface of the left lower lobe. Left lung shows slight amount of interlobar adhesions between upper and lower lobes. There is marked congestion and edema of the upper left side. Few small areas of consolidation with anthracotic induration. Emphysematous distention of the anterior margin of the left lung is marked. Slight amount of arteriosclerosis of the pulmonary artery is present. Slight amount of

bronchiectasis is likewise present. Purulent bronchitis present in the right lung with edema and slight congestion of the upper part of the lobe. The right lung is otherwise negative. Hilus glands are markedly anthracotic and slightly swollen. Pericardial cavity is smooth. Heart is slightly larger than the corresponding left fist of the individual. Consistency is very well preserved. Mitral opening admits two finger tips, tricuspid three. Right heart enlarged, the right auricle showing marked whitening of the endocardium. Slight amount of parenchymatous degeneration of the muscle substance of the heart. Marked ar-

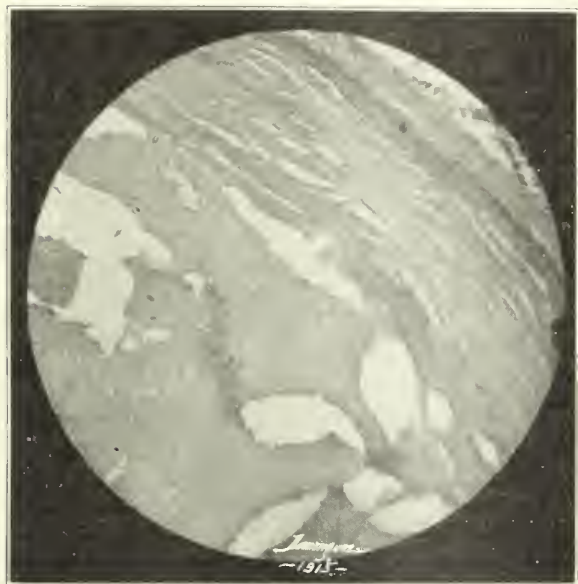


Fig. 3.

teriosclerosis of the trunk of the aorta. Fibrous thickenings of the aortic cusps with slight amount of sclerosis of the coronary arteries. The spleen findings will be discussed more fully below. Right kidney large, capsule strips readily. Pelvis smooth, cortex increased in size, markings slightly indistinct, otherwise negative. Left kidney similar to right. Stomach small and contracted. Mucosa markedly rugose and contracted. Gall passages patent. Pancreas slightly atrophic, otherwise apparently normal. Liver increased in size, and on section shows typical nutmeg appearance.

Substance of the liver is soft and friable. On dissecting the internal iliac, the vessel wall is found to contain numerous sclerotic patches. At the upper part of Scarpa's triangle on the left side, the femoral vein is found eroded close to the point of anastomosis with a small branch. No glands are to be found, except a few small ones at the bifurcation of the iliacs. No evidence of carcinoma is to be seen. Eroded left femoral vessel is directly above a large circular cavity with smooth walls containing lymph. Dilation of the femoral artery present directly below Poupart's Ligament.

Outside of the splenic findings the chief findings are then an extensive arteriosclerosis with evidence of previous emphysema and chronic bronchitis. There is no evidence of previous tuberculosis unless the plastic pleurisy is to be considered as such. The spleen at autopsy weighed 105 gms. was enlarged and showed a slight degree of previous perisplenitis. On section it was found necessary to saw through the spleen on account of the contained stones. The stones are diffusely distributed throughout the spleen as can be observed in Plate 1, as well as in Plate 2.

The spleen measures 7.5 cm. in length, 6.0 cm. in width and 2.0 cm. in thickness. A section through the spleen parallel to its long axis shows

the spleen pulp to be fairly firm; follicular markings quite distinct; and the spleen trabeculae increased in thickness. At the hilus about the junction of the middle and lower third are several irregular nodule-like firm nodules which on closer examination are seen to be calcified. These yellowish white masses are sharply marked off from surrounding splenic substances. When these nodules are moved to and fro they are found to be invested by a thin greyish membranous capsule. One of these stones lies directly underneath a large branch of the splenic vein, and seems to lie in a sort of diverticulum of this vein. On microscopical examination the lymphatic corpuscles are fairly well preserved. The trabeculae are increased in thickness and the smaller penicillium glauci are the seat of marked hyaline changes. The larger blood vessels are increased in thickness, the intima and adventitia having undergone the greatest increase in fibrous elements. The pulp cells are present but are not increased in amount. The pulp contains numerous eosinophile cells as well as large mononucleated cells. There is no evidence of phagocytosis present.

The microscopical examination of a concretion and its surrounding tissue shows the area of calcification to be surrounded by a fibrous ring the interior of which is lined by hyperplastic elastic tissue. Strands of tissue are present which extend into the interior of the stone and which also are lined by elastic fibres. This is best demonstrated in sections stained with Unna's Orcein method. The presence of these strands points to a previous thrombotic process which has undergone organization, since all organizing thrombi in blood vessels are accompanied by excessive hyperplasia of the intima of the blood vessel. This is best manifested by an increase in the elastic elements of the blood vessel wall.

From the above findings it would seem that we are dealing with a case similar in some respects to the phleboliths that are occasionally encountered in the splenic vein. Owing to the interstitial splenitis present venectasis followed by thrombosis with consequent calcification has taken place in the substance of the spleen. The spleen would be subject to the same rule applicable in the case of the lung, where as a result of an interstitial pulmonitis the bronchial walls undergo an ectasis produced by the unequal distribution of the atmospheric pressure. The variations in blood pressure that the spleen is subject to, are felt chiefly in the walls of the larger blood vessels, and as can be seen from the X-ray photograph the venectasis has occurred principally in the larger branches of the splenic vein within the spleen.

Their distribution about the hilus also lends additional weight to this hypothesis. Although tuberculous changes were not demonstrable in the lung, the histology of the stones and their relationship to elastic tissue makes the supposition of a previously healed tubercle with secondary calcification, untenable. Other conditions such as calcified infarct or gumma are likewise ruled out for the same reason. We must conclude therefore that this case is one of phleboliths of the spleen and is of unusual interest because of the venectasis and the comparatively large size of the stones.

I wish to thank Dr. Sterling Bunnell for his kindness in referring the case, Dr. M. P. Burnham, roentgenologist of the St. Francis Hospital, for the Roentgenogram, and Mr. Dominguez for the microphotograph of the specimen.

References.

- Orth—Pathologische Anatomie, 1886.
- Dufour—Bulletin at Memoirs de la Societe Medicale des Hopitaux de Paris, 1903.
- Sailer—Transactions of the Pathological Society of Philadelphia, 1897.

Plate 1—Photograph of Spleen Stones showing their relation to the Spleen Hilus.

Plate 2—X-ray of the Stones in Spleen taken after removal from body.

Plate 3—Section of capsule surrounding a stone.

LEUKOPENIA: ITS RELATION TO NEURALGIA.

By JOSEPH H. CATTON, M. D., San Francisco.

Neuralgia has a most varied etiology. Certain factors, for example trauma, or dental caries, may, acting purely locally, cause it. This communication considers the systemic causes of neuralgia. It shows that each of these etiologic factors tends also to bring about a relative or absolute decrease in the number of granular leukocytes, and offers the suggestion that there is a definite relation between the leukopenia and the nerve affection giving rise to neuralgia.

ETIOLOGY OF NEURALGIA.

INFECTIONS.

Neuralgia is a common symptom of certain infections, being most often seen in malaria, influenza and syphilis. Malaria is mentioned by all writers on neuralgia as the most frequent infectious cause. Pierre Marie says neuralgia is more common in the chronic forms of the disease. White and Jelliffe think it due to the toxemia, and Oppenheim and Mayer to the direct action of the virus. Certain of the neuralgias in this disease may be due to anemia per se.

Influenza is a well-recognized cause and is second only to malaria in the frequency of its association. Lewandowsky says that in malarial-free countries influenza is the most common cause.

Neuralgia is frequently associated with syphilis. Pierre Marie, Bing, Schmidt, Starr, Dieulafoy and others simply mention its association with the disease. Jacobsohn, Gowers, Leube and Oppenheim doubt that it is truly syphilitic, but Fournier and Obalinski claim that neuralgia is a definite symptom of the infection.

Neuralgia may occur in typhoid. Leube, Salinger and Marie find it early in the disease and the latter also during its course. Oppenheim thinks it due to toxins and to exhaustion.

Tuberculosis is sometimes etiological in neuralgia. Schmidt and Babcock mention its occurrence here and Marie writes of its presence early and in the course of the disease.

Marie reports neuralgia at the onset of the eruptive fevers; and Jelliffe, Leube, Salinger and others mention its occurrence more specifically in smallpox. Gonorrhea was recorded as a cause of neuralgia by Marie and Schmidt. Jelliffe says it may occur in tonsillitis.

THE ANEMIAS.

The association of neuralgia with anemia is well recognized. Marie finds anemia per se, etiological of neuralgia. Jelliffe speaks of the affection in post-hemorrhagic and parasitic anemias, and Thompson in the anemias of such intoxications as those of benzene, and illuminating gas. It is common in chlorosis, in pernicious anemia and the leukemias. Cahot speaks of it in hemophilia and in polycythemia.

EXOGENOUS NON-INFECTIOUS POISONS.

Poisoning with lead, arsenic, mercury or copper may be accompanied by neuralgia. Although Leube and Salinger doubt that alcohol is a true factor in its causation, there is no doubt that the affection is

frequently associated with alcoholic intoxication, and the latter is regarded as a definite cause by Gowers, Bing, Schmidt and others. Neuralgias have been reported frequently in nicotine poisoning. Salinger mentions iodine as a cause. The affection may be an abstinence symptom in morphinism or cocaineism.

LEUKOCYTE PICTURES.

The leukocyte pictures in the conditions just listed as causative of neuralgia will now be considered, showing the tendency toward reduction in the number of granular leukocytes or increase in the number of hyaline ones.

It was shown in a previous communication¹ that in malaria (a) there is no leukocytosis, (b) a leukopenia is practically constant, (c) the decrease in the number of cells affects more particularly the polynuclear variety, and (d) that there tends to be a relative or absolute increase in the number of large mononuclear cells.

Likewise it was mentioned that an uncomplicated influenza is associated with a leukopenia or an absence of leukocytosis and that any decrease in the number of granular cells tends to be associated with an increase in the number of hyaline ones.

A leukocytosis does not occur in uncomplicated syphilis and a relative increase in lymphocytes is more or less constant in the various forms of disease. It is established that in enteric fever (a) a leukocytosis is wanting, (b) there is in nearly all cases a leukopenia and (c) a relative lymphocytosis is a characteristic feature. Leukopenia or at least an absence of leukocytosis is the rule in tuberculosis. Certain authors except the meningeal and serosal forms. A relative lymphocytosis is more or less characteristic of the various forms of the disease. Although certain observers have reported a polynuclear leukocytosis in smallpox it was shown in a previous communication¹ that (a) the number of leukocytes may be normal (b) violent and hemorrhagic cases may present a leukopenia, (c) mild cases sometimes present subnormal counts and (d) the increase in cells at postulation is due to lymphocytes.

Gonorrhea may cause a polynuclear leukocytosis. Schmidt and Marie report neuralgia as occurring in gonorrhea. The fact that this disease is not mentioned as an etiological factor by Pearce, White, Jelliffe, Gowers, Starr, Mayer, Oppenheim, Bing and others may justify the opinion that other etiology for the neuralgia might have been found in the cases reported.

Tonsillitis with cervical gland involvement may give a lymphocytic leukocytosis. Stitt says that enlargement of the tonsils alone may give a leukocytosis of 10,000 to 15,000, 50% of the cells being lymphocytes. It will be interesting to note whether or no it is in these types of tonsillar affection that neuralgia occurs.

Most anemias are accompanied by a leukopenia. Wilson reports it in profound symptomatic anemias: it occurs in certain of the purpuras: Buchanan finds it in the severe anemias associated with gastro-intestinal disturbances in children. Leukopenia is characteristic of splenic anemia, Gulland and

1. Catton. Leukopenia, Its Relation to Orchitis. Cal. State. Jour. Medicine, Feb., 1916.

Goodal finding total counts usually below 5000 per cmm. Wright says a leukopenia is characteristic of hemophilia. It is practically constant in pernicious anemia and most frequent in chlorosis. In these diseases, in addition to the absolute reduction in the number of granular cells there is usually a relative lymphocytosis: thus, Emerson, Wood, Buchanan and Ewing find the latter characteristic of pernicious anemia, and Adami and others of chlorosis. Buchanan, Ewing and others find the lymphocytic increase in parasitic anemias, Emerson and Ewing in hemophilia and in scurvy. Lymphatic leukemia shows the greatest increase in lymphocytes and relative decrease in granular cells. Polycythemia was also listed as a cause of neuralgia. Cabot suggests that the congestion accompanying the disease may cause the neuralgia. There are abundant reports of either a leukocytosis or a leukopenia in this disease. Weber, Aldrich, Crummins and others have found leukopenia characteristic. One reason for variation in the findings is the occurrence of hemorrhage in the disease. A later communication will suggest that leukopenia is just as definitely a sign, in certain cases, of a tendency toward hemorrhage, as is leukocytosis that hemorrhage has occurred.

The leukocyte pictures in the non-infectious intoxications have not been so thoroughly studied. Thompson and others find a leukocytosis and not a leukopenia characteristic of lead poisoning, but Emerson says that chronic intoxication with lead, or with arsenic or mercury reduces the total number of white cells. Chronic alcoholism likewise may cause a leukopenia. Insufficient data was available regarding the leukocyte pictures in poisoning with benzene, illuminating gas and hydrogen sulphide; Thompson, however, finds the neuralgias of the latter associated with anemia and it was shown above that a leukopenia tends to accompany an anemia. Gulland and Goodal say that iodine injections cause an increase in the number of lymphocytes and Landis finds an increase in the hyaline cells on the third day following its administration intravenously, subcutaneously, by inhalation or inunction. The blood pictures in nicotine and cocaine intoxication need investigation. Neuralgia has been called an abstinence symptom in morphinism; Emerson finds a leukopenia characteristic of the latter condition.

This paper has considered only infectious and non-infectious exogenous toxins, and the dyscrasic toxins present in the anemias as causative of neuralgia and leukopenia. Neuralgia accompanies certain disturbances in the ductless glands, being seen more especially in myxedema; Lewandowsky speaks of it in Basedow's Disease. It is significant that a lymphocytosis is found associated with exophthalmic goiter and thyroid enlargement, that it may occur during thyroid treatment; also that Borchardt finds a leukopenia in about half the cases of thyroid disturbance.

Prolonged exposure to cold may be productive of either neuralgia or leukopenia. Certain emotions may be provocative of a neuralgic attack and emotions definitely affect the autonomic nervous system, irritation of the vagotonic side of which may cause a lymphocytosis.

Adami, Emerson, Buchanan and others state that debility from any cause may bring about an increase in the number of lymphocytes, and Wilson, Emerson and Buchanan that malnutrition regardless of cause tends to produce a leukopenia: neuralgia is a frequent associate of either debility or malnutrition.

The neuralgias in diabetes, gout, nephritis and chronic rheumatism may in some measure be due to debility and faulty nutrition.

SUMMARY.

(1) Neuralgia may occur:

a. In exogenous infectious intoxications: malaria, influenza, syphilis, and less frequently typhoid, tuberculosis, smallpox and tonsillitis.

b. Exogenous non-infectious intoxications: poisoning with lead, arsenic, mercury, copper, nicotine, hydrogen sulphide, illuminating gas, benzene and iodine; or as an abstinence symptom in morphinism and cocaineism.

c. Dyscrasic intoxication in blood disease: the severe anemias, pernicious anemia, chlorosis, leukemias, hemophilia and polycythemia.

d. Following exposure to cold.

e. In certain ductless gland disturbances.

f. In debility and malnutrition.

(2) A relative or absolute reduction in the number of granular leukocytes tends to be characteristic of each of the above conditions.²

CONCLUSION.

After a study of the conditions etiological in neuralgia and of the leukocyte pictures present in these conditions, the suggestion is offered that there is a definite relation between neuralgia on the one hand and a disturbance in the normal polynuclear-lymphocyte balance,—a tendency toward decrease in the number of granular cells and increase in the number of hyaline ones.

References Neuralgia.

- Babcock. Diseases of the Lungs, 1907.
 Bing. Lehrbuch der Nervenkrankheiten, 1913, p. 55.
 Cabot. Diseases of the Blood. Osler's Modern Medicine, 1915, vol. iv.
 Dieulafoy. Textbook of Medicine, vol. ii, p. 1500.
 Funke. Putrefactive products of intestinal canal as etiological in neuralgia. Abs. A. J. M. Sc., 1911, vol. 56.
 Gowers. Diseases of the Nervous System, 1901, vol. ii, p. 796.
 Jacobsohn. Klinik der Nervenkrankheiten, 1913, p. 137.
 Jelliffe. Neuralgia. Osler's Modern Medicine, 1910, p. 769.
 Lewandowsky. Praktische Neurologie für Ärzte, 1912, p. 74.
 Marie. La Pratique Neurologique, 1911, p. 381.
 Mayer. Oppenheim's Diseases of the Nervous System, 1900, p. 342.
 Oppenheim. Lehrbuch der Nervenkrankheiten, 1913, vol. i, p. 720.
 Pershing. Neuralgia. Forchheimer's Therapeutics of Internal Diseases, 1913, vol. iv, p. 334.
 Pick, Hecht, Koessler. Clinical Symptomatology, 1911, p. 665.
 Pearce. Diseases of the Nervous System, 1904.
 Salinger. Leube's Special Medical Diagnosis, 1904, p. 449.
 Schmidt, Pain, 1911. Trans. Vogel and Zinnser, p. 99.
 Starr. Nervous Diseases, Organic and Functional, 1909, p. 719.
 Thompson. The Occupational Diseases, 1914, p. 538.
 White and Jelliffe. Modern Treatment of Nervous and Mental Diseases, 1913, vol. ii, p. 141.

Blood Pictures.

- Adami and Nicholls. Principles of Pathology, 1911, vol. ii.
 Borchardt. The Blood Pictures in Disease of the Glands of Internal Secretion, Abs. A. J. M. Sc., May 15, 1915.
 Buchanan. The Blood in Health and Disease, 1909.
 Burnham. Hemocytes and Hemic Infections, 1913.

2. Copper and nicotine to be investigated.

Cabot. Diseases of the Blood. Osler's Modern Medicine, 1915, vol. iv.
 Ibid. Physical Diagnosis, 1909.
 Catton. Leukopenia, Its Relation to Orchitis. Cal. State Jour. Med., Feb., 1916.
 Cohen and Strickler. The Leukocyte Picture in Pulmonary Tuberculosis. A. J. M. Sc., 1911, vol. ii, p. 691.
 Councilman. Smallpox. Osler's Modern Medicine, 1913, vol. i.
 Dieulafoy. Textbook of Medicine, vol. ii.
 Emerson. Clinical Diagnosis, 1911.
 Ewing. Clinical Pathology of the Blood, 1903.
 Gulland and Goodal. The Blood, 1912.
 Hultgen. The Leukocytes in the Early Diagnosis of Typhoid, etc. A. J. M. Sc., 1911, vol. 142, p. 253.
 Landis. Progressive Medicine, 1913, p. 363.
 McCrae. Symptoms of Typhoid Fever. Osler's Modern Medicine, 1913, vol. i, p. 130.
 Sahli. Diagnostic Methods, 1909, pp. 645 et seq.
 Stitt. Practical Bacteriology, Blood Work and Animal Parasitology, 1909, pp. 161 et seq.
 Wilson. Medical Diagnosis, 1909, p. 262.
 Wood. Chemical and Microscopical Diagnosis, 1905, p. 118 et seq.

Provisional Program

FIRST DAY.

California State Medical Society,
 April 18, 19, 20, 1916.

As the program is crowded, the papers will be limited absolutely to the time specified, otherwise there will be no time left for discussions. Discussions are limited to five minutes for each member taking part.

Tuesday Morning.

General Session, etc. (The Report on Medical Education and Medical Licensure, will be presented for general discussion.)

Tuesday Afternoon.

- Symposium on "Exophthalmic Goitre."
 - "Unusual Aspects of Exophthalmic Goitre" (10 minutes).
 George D. Barnett, San Francisco.
 - "Symptomatology" (10 minutes).
 Henry Lissner, Los Angeles.
 - "Surgery of Exophthalmic Goitre" (10 minutes).
 E. C. Moore, Los Angeles.
 Discussion opened by Wallace I. Terry (San Francisco).
 - "Medical Treatment of Exophthalmic Goitre" (10 minutes).
 Donald Frick, Los Angeles.
- "The Gait in Nervous Diseases." (Illustrated by Motion Pictures.) (15 minutes).
 Walter Schaller, San Francisco.

SECOND DAY.

Wednesday Morning.

- "Symptomatology of Gall Stones With Normal Findings at Operation" (15 minutes).
 Harold Brunn, San Francisco.
 Discussion opened by Alanson Weeks (San Francisco).
- "Selected Points in Gastrointestinal Diagnosis." (Lantern Slides.) (15 minutes).
 G. W. Lippman, San Francisco.
 Discussion to be opened by Rexwald Brown (Santa Barbara).
- "Relation of Posture to Physical Efficiency" (15 minutes).
 H. L. Langnecker, San Francisco.
 Discussion to be opened by Leonard W. Ely and J. T. Watkins, San Francisco.
- "Operative Treatment of Procidencia" (15 minutes).
 F. W. Lynch, San Francisco.
 Discussion to be opened by A. B. Spalding and C. J. Teass, San Francisco.
- "American Red Cross Work in Belgrade" (20 minutes).
 Shadworth Beasley, San Francisco.
 Discussion to be opened by H. A. Rosenkranz, Los Angeles.

Wednesday Afternoon.

Sessions of G. U. and Eye, Ear, Nose and Throat, and the Tuberculosis Society.

THIRD DAY.

Thursday Morning.

- "Occurrence of Double Tumors" (10 minutes).
 James Blair, San Jose.
- "Apocodeine—A New Laxative With Particular Advantages" (10 minutes).
 W. C. Alvarez, San Francisco.
- "Trifacial Neuralgia" (10 minutes).
 J. M. Wolfsohn, San Francisco.
- "Blood Sugar Tolerance" (10 minutes).
 R. S. Cummings and George Piness, Los Angeles.
- "Treatment of Syphilis" (20 minutes).
 Granville MacGowan, Los Angeles.
- "Mercurialized Serum Injections in Syphilitic Nervous Diseases" (10 minutes).
 Henry Mehrrens, San Francisco.

Thursday Afternoon.

- "Leucopenia—Its Significance."
 Joseph H. Catton, San Francisco.
- "Symposium on 'Focal Infections.'"
 - "Focal Infections in General" (10 minutes).
 J. A. Colliver, Los Angeles.
 - "Endocarditis in Childhood" (10 minutes).
 E. C. Fleischer, San Francisco.
 - "Intestinal Involvement" (10 minutes).
 Fred Gundrum, Sacramento.
 - "Focal Infection from a Urological Standpoint" (10 minutes).
 Ralph Williams, Los Angeles.
 - "Mouth" (10 minutes).
 James G. Sharp, San Francisco.
 - "Tonsils" (10 minutes).
 John Mackenzie Brown, Los Angeles.

GENITO-URINARY SECTION OF THE STATE MEDICAL SOCIETY AND WESTERN BRANCH OF THE AMERICAN UROLOGICAL ASSOCIATION.

Wednesday Morning—10 A. M.

Fibrosis of the Bladder Neck as a Cause of Urinary Frequency. H. Welland Howard.
 Urethral Fistulae. Charles D. Lockwood.
 A Report of Fifty Cases of Tuberculosis of the Kidney and Bladder Clinically Cured Without Operation. F. S. Dillingham.
 Lantern Slide Demonstration of the Use of the X-ray in the Diagnosis of Kidney and Ureteral Diseases. Frank Hinman.
 Radiographic Diagnosis of Hydronephrosis with Lantern Slide Demonstrations. Martin Krotoszyner.

GENERAL SESSION.

Wednesday Afternoon—1:30 P. M.

Symposium on Tumors of the Kidney:
 By Albert Soiland, J. Shearman Peterkin. Discussion opened by Leon J. Roth.
 By Langley Porter. Discussion opened by P. V. K. Johnson.
 By Herbert C. Moffitt. Discussion opened by Jos. M. King.
 By Stanley Stillman. Discussion opened by Guy Cochran.
 Modern Diagnosis and Treatment of Urinary Lithiasis. William E. Stevens.

Thursday Morning—10 A. M.

A Preliminary Report on the Simultaneous Use of Indigo Carmine and Phenolsulphonephthalein Tests in Surgical Diseases of the Kidney. Anders Peterson.
 The Diagnosis and Treatment of Contracture of the Vesical Neck. Arthur B. Cecil.
 The Value of Fuchsin in Urology. Victor G. Vecki.
 A Method of Re-establishing the Patency of the Ureter in Pyonephrosis. M. Molony.

TENTATIVE PROGRAM OF EYE, EAR, NOSE AND THROAT SECTION.

"Results of the Intracapsular Cataract Operation After One Year." Dr. A. S. Green, San Francisco. Discussion opened by Dr. Hugo A. Kiefer, Los Angeles.

"Eye Symptoms of Tabes." Dr. Wm. F. Blake, San Francisco. Discussion opened by Dr. M. W. Fredrick, San Francisco.

"Additional Notes on the Etiology of Oozena." Dr. Henry Horn, San Francisco. Discussion opened by Dr. E. A. Victors, San Francisco.

"The Surgical Treatment of Squint." Dr. Vard H. Hulen, San Francisco. Discussion opened by Dr. Thos. J. McCoy, Los Angeles.

"The Removal of Foreign Bodies From the Bronchi and Oesophagus." Dr. H. B. Graham, San Francisco. Discussion opened by Dr. Geo. W. McCoy, Los Angeles.

"Present Legislation and Proposed Legislation for the Prevention of Blindness." Dr. Edw. F. Glaser, San Francisco. Discussion opened by Dr. Wm. Ellery Briggs, Sacramento.

"Report of Interesting Cases." Dr. Cullen F. Welty, San Francisco. Discussion opened by Dr. Benj. F. Church, Redlands.

"Glaucoma, a Critical Review of Present Methods of Treatment." Dr. Hans Barkan, San Francisco. Discussion opened by Dr. W. Scott Franklin, San Francisco.

"Meningitis of Nasal Origin." Dr. Havard Y. McNaught, San Francisco. Discussion opened by Dr. P. A. Jordan, San Jose.

"Meningitis of Otitic Origin." Dr. E. C. Sewall, San Francisco. Discussion opened by Dr. J. Mackenzie Brown, Los Angeles.

"Tubercular Meningitis." Dr. Wm. B. Lucas, San Francisco. Discussion opened by Dr. H. S. Moore, San Francisco.

"Eye Findings in Meningitis." Dr. W. Scott Franklin, San Francisco.

"Prospects of Surgical Treatment of Meningitis." Dr. H. C. Naffziger, San Francisco. Discussion opened by Dr. S. Hyman, San Francisco.

"Focal Infections and the Eye." Dr. H. G. Thomas, Oakland. Discussion opened by Dr. Hans Barkan, San Francisco.

"Strabismus, Latent and Manifest." Dr. Roderick O'Connor, Oakland. Discussion opened by Dr. E. W. Alexander, San Francisco.

"Some Conditions of the Eyes and Throat Which Retard the Progress of School Children." Dr. W. S. Fowler, Bakersfield. Discussion opened by Dr. Barton J. Powell, Stockton.

"Pure Carbolic Treatment of Selected Cases of Chronic Suppurative Aural Inflammation." Dr. G. W. Walker, Stockton. Discussion opened by Dr. Dwight H. Trowbridge, Fresno.

"The Bacteriology of Sinus Disease." Dr. John J. Kyle, Los Angeles. Discussion opened by Dr. Adolph B. Baer, San Francisco.

"The Sluder Method of Tonsillectomy." Dr. F. M. Shook, Oakland.

"Prescribing Frames and Lenses." Dr. Percival Dollman, San Francisco.

"The Modern Treatment of Iritis." Dr. M. W. Frederick, San Francisco. Discussion opened by Dr. Alex. Galbraith, Oakland.

DR. KASPAR PISCHEL,

Chairman.
DR. GEO. P. WINTERMUTE,
Secretary.

that provision can be made for those whose requests came in too late.

Those readers who will require a stereopticon or other apparatus are again urgently requested to notify Doctor Jones or the Committee on Arrangements.

THE AMERICAN MEDICAL GOLFING ASSOCIATION.

In accordance with preliminary announcement made in the A. M. A. Journal previous to the last A. M. A. convention, the American Medical Golfing Association held its first tournament in San Francisco, June 21, 1915. Arrangements were then made for the organization and that is now complete with the following directors:

President... Wendell C. Phillips, New York

Vice-President... James Eaves, San Francisco

Secretary-Treasurer... Will Walter, Chicago

Plans are now being made for the second tournament to be held in Detroit at the forthcoming A. M. A. convention in June.

The directors have decided to list as charter members all fellows who shall have enrolled by April 1, 1916.

All fellows of the A. M. A. who play the game are eligible and may obtain the desired information from the Secretary-Treasurer, Dr. Will Walter, 122 S. Michigan Boulevard, Chicago.

Members of the British Medical Association have a similar organization for play at their annual meetings, and it is thought that this will add materially to the social interest of the A. M. A. as it has to the B. M. A. conventions.

The

REGISTER AND DIRECTORY

Published by the

STATE SOCIETY

Will be sent free to members in a few weeks,
as usual.

DO NOT PAY

for any other directory under a mistaken impression that it is the

REGISTER AND DIRECTORY

of the

STATE SOCIETY

"Readers of Papers—Important Notice."

The Program has been full for some weeks. Numerous excellent papers have had to be refused places on account of lack of room. If any of the authors who have been placed on the Program, by invitation or otherwise, find that they cannot appear, the Committee would greatly appreciate prompt notification to that effect. It is only in this way

THE TYPHOID FEVER DEATH RATE IN CALIFORNIA.*

By WILBUR A. SAWYER, M. D.,
Secretary, California State Board of Health.

The typhoid fever death rate in California has been falling steadily since the year 1906, when authoritative statistics were first collected. Nevertheless, typhoid fever is still all too prevalent, and the State Board of Health is determined to bring about further marked reductions in the amount of this disease.

The typhoid death rate, expressed in the number of deaths per 100,000 of population is, at the present time in California, the only practical measure by which success in attempts to reduce typhoid fever can be gaged. The case rate, or morbidity rate, would be a better indicator of the success of preventive measures if it could be accurately ascertained. Too many cases of typhoid fever, however, go entirely unreported to make the morbidity rate a true picture of the condition with regard to typhoid fever in the state.

This incompleteness in the reporting of cases can be readily demonstrated. The number of deaths from typhoid fever, considering all cases, is decidedly less than ten per cent. of the number of cases, probably about five per cent. I believe, therefore, that I am conservative in estimating that for every death from typhoid fever in California there are nine cases which could be easily recognized and which terminate in recovery. On this basis there should be ten times as many cases of typhoid fever as deaths, granting that the reports of death are fairly reliable, which I believe they are. In the year 1914 there were 376 deaths from typhoid fever reported. This would indicate the existence of at least 3760 cases. In that year reports were received of only 1810 cases, 48 per cent. of the estimated number. To put the matter more strikingly, the records would appear to show that 20.8 per cent. of all cases of typhoid fever in California died—a ridiculous result! Further analysis of the records will show that this ratio between cases actually reported and cases estimated from the death rate varies greatly under the jurisdiction of different health departments. The following table shows the number of deaths per one hundred reported cases, for cities of over 25,000 population and a few counties having a high typhoid rate. The apparent case mortality is also shown:

TYPHOID FEVER—1914.

Cities with estimated populations of 25,000 and over	No. of Deaths	No. of Cases	Deaths per 100 reported Cases	Cases reported. Per cent. of the estimated number of cases
Alameda	2	19	10.5	95
Berkeley	4	27	14.8	67
Fresno	5	11	45.4	22

* Read before the Northern District Medical Society, Sacramento, November 9, 1915.

Long Beach	3	20	15.0	67
Los Angeles	33	256	12.9	78
Oakland	13	86	15.1	66
Pasadena	3	7	42.8	23
Sacramento	23	260	8.8	113
San Diego	10	11	90.9	11
San Francisco	57	274	20.8	48
San Jose	3	4	75.0	13
Stockton	12	14	85.7	11

COUNTIES:

Amador	3	22	13.6	73
Butte	4	7	57.1	17
Colusa	6	16	37.5	27
Contra Costa	9	24	37.5	27
Fresno	14	27	51.8	19
Imperial	17	45	37.7	26
Kern	7	11	63.6	16
Kings	4	90	4.4*	225
Orange	13	35	37.1	26
Riverside	6	29	20.6	48
Santa Clara	11	24	45.8	22
Shasta	2	6	33.3	30
Siskiyou	3	7	42.8	23
Solano	3	12	25.0	40
Sonoma	10	108	9.2*	108
Stanislaus	4	11	36.4	27
Tehama	4	14	28.6	35
Tulare	5	23	21.7	46
Yolo	7	20	35.0	29

It is obvious, then, that, for the present, the only reliable index of progress in typhoid prevention is the typhoid death rate. In California the rate per 100,000 population is obtainable for the past eight years and shows a steady fall from 32.2 to 13.6, a reduction of 58 per cent. Nevertheless, there is still much room for improvement. As the rate becomes smaller, the difficulty of further reduction will become greater, but California is better prepared to prevent typhoid fever now than ever before.

In a comparison of the amount of typhoid fever in the various states, California holds a middle place. The latest complete official statistics are those published for the year 1913 by the United States Bureau of the Census. In that year, twelve states of the registration area had a worse rate than California and eleven made a better showing. The highest rate was 57.4 (North Carolina) and the lowest was 7.8 (Vermont). Five states had typhoid death rates below 10 per 100,000: Vermont, 7.8; Massachusetts, 7.9; Rhode Island, 8.3; Wisconsin, 9.0, and New Jersey, 9.6. Every effort will be made to bring California into this group within the next four years.

Within the state the prevalence of typhoid fever is far from uniform. In the counties bordering on the sea coast there is, in general, less typhoid fever than in those in the interior. The typhoid fever rates by counties for the years 1909 to 1914, inclusive, were compiled by Mr. Guy P. Jones and published in the monthly bulletin of the California State Board of Health for April, 1915. He showed that the rates for the various counties varied from zero to 64.7 and that the highest

* Nearly all cases reported because of the presence of an epidemic.

rates were in the interior counties. The most alarming rates were in large part due to the use, for drinking purposes, of water from polluted streams, ditches, or wells.

In comparing the typhoid rates of our cities and our counties it must not be overlooked that one region may receive credit, or rather discredit, for cases imported, after infection in another place. It is customary for health officers of cities, in discussing the typhoid fever death rate within the areas of their jurisdiction, to state the true death rate and then to make reduction on the basis of imported cases. Sometimes the imported cases comprise a very large part of all the cases in a city. The process of excluding the imported cases from consideration must, to give correct results, be supplemented by the addition of cases infected within the city, but exported to other communities.

Another source of error in the comparison of communities lies in the fact that the counties are subdivisions too large for consideration as units, if the statistics regarding typhoid fever are to indicate the most important sources of infection. A county may contain a circumscribed area in which the danger from infection is very great, but the average death rate for the county may, nevertheless, be low.

It is desirable to make available all the statistics that can be obtained which will be useful to state and local health officers in the control of typhoid fever. To this end it is proposed to require more definite statistics regarding the origin of each case of typhoid fever and to distribute the information thus obtained, through the State Board of Health as a central office. For instance, if a city declares that certain cases are imported and should not be credited to that city, it will be incumbent upon the health officer to furnish the State Board of Health with a statement regarding the probable origin of each case. The State Board of Health, thereupon, will take the matter up with the health officer in the region which is the alleged source of infection and will request an investigation and a report. From all the information so obtained, it will usually be possible to decide where infection really took place.

In this way a corrected death rate for the state, by localities in which infection took place, can be arrived at, and attention will be called to local conditions which are responsible for keeping up our death rate. As soon as a given town or farm, or other subdivision of the state, is found to be a focus from which typhoid fever is being distributed, intensive preventive measures can be instituted there.

It is my intention to inaugurate this system so that it will be in full working order by the first of the coming year. Then it will be possible in the year 1916 to show definitely where most of our typhoid fever is coming from and to use the epidemiologists and engineers of the Board more effectively in attacking the disease at its source. At the end of the year we shall be able to supply a corrected, as well as an actual death rate, for various parts of the state and to construct a map

showing accurately the areas of greatest prevalence.

The State Board of Health is carrying on an intensive campaign for the reduction of the typhoid rate. It is determined to reduce this rate from 13.6 to 9.6 in the four years from 1915 to 1918, inclusive. Present indications are that the reduction aimed at will be accomplished for this year. But, as the rate falls toward zero, the reduction will become more difficult, especially, if neighboring states permit a higher rate to exist. To announce a determination to attain a rate as low as 9.6 in four years seems daring, but the Board is confident of success, as it is in a position now to enforce stream pollution laws, and exercise supervision over sewage disposal and water supplies much more effectively than in the past.

The newly created Bureau of Sanitary Engineering is already actively engaged in making inspections and laying down the conditions upon which permits will be issued for the disposal of sewage or the selling of water for domestic purposes. This one activity, newly inaugurated, will, we hope, be very effective in the reduction of the typhoid rate.

In this campaign for the reduction of the typhoid fever rate, the sanitation of summer resorts and smaller rural communities, will be dealt with by the Sanitary Inspector of the State Board of Health. This inspector places emphasis particularly upon proper sewage disposal. Through his activities, conditions have already been greatly improved in many of our summer resorts. Shortly we expect to note a decided diminution in the so-called "Vacation Typhoid." The Board of Health intends to make the great parks and playgrounds of this state safe. Streams used for drinking purposes will be protected and those which cannot be kept unpolluted will be placarded, if they are in such a situation as to be convenient sources for drinking water.

The Bureau of Communicable Diseases, heretofore known as the Bureau of the Hygienic Laboratory, will play its important part in this reduction of typhoid fever. The epidemiologists and bacteriologists of that Bureau can carry on intensive investigations in those areas in which typhoid fever is prevalent, and ferret out the typhoid fever of obscure origin. It is this Bureau that will detect the more dangerous typhoid carriers and make it possible to place them under proper protection and isolation. It is this Bureau of Communicable Diseases that will help, further, by making such Widal tests and bacteriological examinations, as may be needed by the smaller communities and rural districts of the State to confirm the diagnosis of typhoid fever. It is this Bureau which assists materially in the reduction of typhoid fever by the manufacture and distribution of antityphoid vaccine, free, to physicians. I feel that the very decisive reduction in the typhoid rate in the year 1914, was, in part, at least, due to the extensive use of anti-typhoid vaccine, especially, in the immunization of nurses and persons in contact with the sick.

The individual physician and the local health officer will have to take a very important part in

this campaign. In the first place we must depend upon them for the complete reporting of all cases as well as deaths. I have already shown how incomplete the morbidity reports are, except in the presence of epidemics under investigation. If typhoid outbreaks are to be controlled at their beginning, it is necessary that information should be received regarding every case as soon as a diagnosis can be established. Investigation can then follow promptly. Great assistance can be rendered if the physician and local health officer will make vigorous attempts to locate the source of the infection and to give such instructions and to take such action as may be necessary to hold the disease in check until steps for permanent correction can be taken. In every case of typhoid fever inquiry should be made regarding the location of the patient at the probable time of infection, the drinking water supply and milk supply, and contacts with previous cases. These data should be forwarded to the local health officers, who, in turn, will keep the State Board of Health informed.

One very important part in the prevention of typhoid fever is almost entirely in the hands of the individual physician. He must see that proper bedside precautions are instituted to prevent the spread of typhoid fever within the household of the patient. Infection of the families of typhoid patients, and especially of those persons who care for the sick, have been common in California. Trained nurses have frequently been infected, and physicians should make it a rule never to place a nurse in charge of a case of typhoid fever unless she has been immunized. Those nurses who have not had the disease should be vaccinated against it.

Most important of all, physicians should see that the patient is properly isolated and that there are provisions in the sick room for proper washing of the hands of the attendant and of the physician. While investigating epidemics, I have frequently found that it was necessary to go to the kitchen sink to wash, after examining a typhoid patient.

As far as possible all typhoid fever cases should be cared for in hospitals or have the attention of trained nurses. If physicians will explain to families the risk of having the patient cared for by the same person who prepares the food for the family and waits on the children, more cases will go to the hospitals and more will be attended by nurses trained in the prevention of infection.

A circular containing the rules of the State Board of Health regarding the prevention of typhoid fever will be sent to any applicant on request.

If the plan of the State Board of Health for reducing the death rate to 9.6 per 100,000 population in four years is accomplished, it will mean the preventing of three hundred deaths from typhoid fever and over three thousand cases. This, however, is not the only reward. Hazen has estimated that, after water purification, for every reduction in the number of deaths from typhoid fever a certain number of other deaths have been avoided, probably two or three.

It is probable, therefore, that if sanitation in California is improved to such a point that a

typhoid death rate as low as 9.6 is possible, the saving in disease and death will be several times as great as will be shown by the statistics for typhoid fever. The results certainly will more than justify the effort and the expense.

Note: Subsequent to the reading of this paper, the California mortality statistics for the latter part of 1915 have been collected, and their tabulation has been almost completed. It is now certain that the typhoid death rate per 100,000 population for 1915 lies between 9.6 and 9.8. The rate has fallen 29 per cent. in the past year and 70 per cent. in the last nine years. This improvement was beyond all expectations, and by 1918 the typhoid death rate in California should be as low as that of any other state.

ORAL HYGIENE—THE CARE OF THE MOUTH DURING ILLNESS.

By JOHN SAYRE MARSHALL, M. D., Sc. D.,
Captain U. S. Army, Retired.

Mr. President, Members of the Alameda County District Dental Society, Ladies and Honored Guests:

In casting about for a subject upon which to address you this evening, this thought occurred to me to ask, "What prophylactic care is usually given to the mouth and teeth of those persons who are seriously ill, in our homes and hospitals?" And I was forced to answer—practically none. And yet it is during these periods that much of the damage, sometimes irreparable, is done to the teeth and oral tissues. This is a much-neglected department of prophylaxis and for that reason I have chosen to speak upon it this evening.

THE CARE OF THE HUMAN MOUTH DURING ILLNESS.

At no time in the history of the individual is the proper hygienic care of the mouth of so much importance as when suffering from severe and prolonged illness; especially the continued and intermittent fevers, tuberculosis, acute articular rheumatism, nervous prostration, and during pregnancy and lactation.

During these periods there is always a marked change in the character of the oral secretions; instead of being neutral in re-action, they are almost invariably acid; while the patient will often complain of a "bad taste in the mouth." These conditions are due to perverted nutrition, faulty metabolism and the action of the mouth bacteria in an unclean mouth.

Your essayist is fully aware, however, that in the light of recent research in relation to the influences of the internal secretions upon special and general bodily functions; that we may have, if these laboratory findings are substantiated, to modify our theories as to the causes of perverted nutrition, faulty metabolism and abnormal secretions. Discoveries have recently been made, in relation to "susceptibility and immunity to dental caries," which also, if substantiated by other research workers, will greatly modify, if not completely change our present views in relation to these conditions. There has not been during the last half of a century so much of the spirit of "I want to know" as at the present time. The profession is beginning to question, and that right seriously,

many of the supposed "thoroughly established theories" in relation to dental diseases and their etiology, and they are not satisfied with any man's *ipse dixit*; they demand the proof.

Rapid dental decay, gingivitis—inflammation of the gums—and stomatitis are common complications, or rather sequelae of severe illness.

Rapid dental decay is almost always a concomitant affection of typhoid fever and rheumatic fever. The same condition is also very frequently associated with pregnancy and lactation. These facts are well known to dental surgeons, and many cases might be cited to substantiate the statement.

By way of illustration, the writer will briefly describe three typical cases from his own practice, which occurred several years ago.

Mr. J. K., aged 19 years, in the finest of health, had his teeth put in the best of condition before entering college. He had had but little dental decay; always, from a little child, had taken nice care of his teeth and mouth. He was considered by the writer as one of his banner patients. Two months after entering college, he was stricken with typhoid fever in a severe form. Three months later returned to his home to convalesce and at once reported, complaining of sensitiveness of the teeth and of decay. Upon a critical examination fourteen cavities of decay were found, located at the gum margins and upon the approximal surfaces.

Miss E. L., aged 14 years, of robust health, had beautiful and almost perfect teeth, with very few fillings. Mouth carefully examined just before sailing for Paris to enter a fashionable school. Six months later was stricken with inflammatory rheumatism, and for several weeks her life hung in the balance. Upon recovery, she visited a noted Paris dentist for relief of very severe pain and decay at the gum margins of nearly all of her teeth. Only temporary treatment was given her at this time, as her parents were to bring her home as soon as strong enough to make the ocean voyage. She, however, suffered a relapse and died in Paris.

Miss H. C., aged 25 years. Milliner by occupation; health had been good. Teeth were in good condition and regularly cared for. Had a number of fillings, all in good condition at last visit. Soon after, was stricken with pneumonia, was desperately ill and made a slow recovery. Acute pulmonary tuberculosis developed before she was able to leave her room, from which she died six months later. During the last four months of her illness her teeth were attacked with rapid decay, which affected nearly every metal filling in her mouth and established several new cavities, necessitating many visits to her bedside to give her relief from pain.

In all of these affections and conditions the salivary secretions are hyper-acid, and as a result of this the teeth are particularly prone to rapid dental decay. The same is true of children suffering from severe and prolonged cases of scarlet fever, diphtheria, measles and gastro-intestinal affections. The writer also observed while on duty in the Philippine Islands that our soldiers afflicted with anebic dysentery and sprue were very prone to rapid dental decay. Pyorrhea alveolaris, however, was no more prevalent in these cases than in other forms of severe illness.

The signs of rapid dental decay are a whitening of the enamel at the cervices (necks) of the teeth at the gum margins, giving a chalky appearance to this portion of the teeth. A whitened, or

chalky zone around present cavities of decay that have been filled with gold and other metals, and the formation of chalky-appearing zones upon the approximating surfaces of the teeth at the points of lateral contact. I have never seen this occurring where gutta-percha had been used as a filling.

Gingivitis, or inflammation of the gums, is usually due either to an unclean condition of the mouth, causing an infection, or to the presence of salivary calculus (tartar), or to a faulty metabolism.

Stomatitis, or inflammation of the mouth, is generally due either to infection from an unclean condition of the mouth, to local irritation from substances taken into the mouth as food or remedies, or to the systemic action of drugs such as mercury, iodine, and the mineral acids which have been exhibited for special purposes.

The care of the mouth of the invalid is a subject of great importance from both the hygienic and curative standpoints.

Prophylaxis. The first consideration in prophylaxis, or prevention, is cleanliness. This applies with equal force to medicine, surgery and sanitation. It is the sheet anchor of success in all of these departments of science.

The oral hygienist must, therefore, base his expectations for success upon cleanliness of the mouth, first, last, and all of the time.

The physician insists upon the daily bath of all his patients, in a manner suited, of course, to each particular case. The surgeon not only requires this, but insists that the part to be operated upon shall be rendered surgically clean, germ-free, which is a much more exacting proposition than ordinary cleanliness.

The dentist also requires that the tooth upon which he operates shall be surgically clean, and this he accomplishes by isolating the tooth with sterilized rubber dam, and treating the tooth with antiseptics.

The oral hygienist cannot, however, carry his efforts in cleanliness to the extremes required by the surgeon and the dentist; neither is it necessary in order to accomplish the success for which he is striving.

The fact remains that in a mouth which is free from food debris, accumulations of salivary calculus, decayed teeth or diseases producing suppurative products, the fluids of the mouth have no auto-infective properties. In other words, the secretions of a clean, healthful mouth are physiologic products, although they may contain several species of mouth organisms, and be infective to another individual. Wounds, even of an extensive character, made in a clean mouth almost invariably heal without inflammation or other untoward accompaniment.

In the case of the mouth of the invalid who has been accustomed, previous to the present illness, to give proper attention to the cleanliness of the mouth and to dental treatment, there are no difficulties that may not be overcome with tact and patience. In even the most desperate cases, where the temperature is running high, and the mouth, tongue and lips are dry and parched, a gentle

cleansing of the mouth is most soothing and grateful to the patient, and eagerly sought thereafter. Instead of being disturbing and harmful to the invalid, it proves restful, as is often shown by being followed by refreshing sleep. It is not always possible to employ the toothbrush and water for cleansing the mouth, as the patient may be too weak to sit up, or even to turn over on the side to eject the water from the mouth. Under these circumstances the mouth may be effectively cleaned by first wiping the teeth with a piece of sterile gauze, wrapped upon the first finger of the right hand, or upon an orange-wood stick (the finger being preferable for many reasons which are obvious), moistened in a saturated solution of boric acid. Then, with the orange-wood stick, flattened at one end, and wrapped with a few fibers of sterilized cotton, carefully rub the surfaces of all the teeth with a 25 per cent. solution of hydrogen peroxide, completing the cleaning of one tooth at a time. The foam which is caused by the effervescence of the hydrogen peroxide in contact with the fluids of the mouth may be wiped away with pieces of gauze moistened in orange water. This cleansing will usually prove so grateful and refreshing to the invalids that they will look forward to it with pleasurable anticipation.

The cleaning of the tongue in illness is especially important when it is covered with a thick, heavy deposit,—“fur,” the result of rapid and undisturbed growth of micro-organisms. In these cases the tongue-scraper will be an invaluable aid to a proper cleaning of this organ. The tongue should afterward be carefully wiped with a piece of sterilized gauze moistened with a saturated solution of boric acid, for its cleansing effect.

The cleansing of the tongue, aside from its prophylactic value, is a matter of great comfort to a patient who is running a high temperature, and should never be neglected when it is possible to accomplish it without too much disturbance of the patient.

On the other hand, with a patient who has never given any particular attention to the cleanliness of the mouth or to dental treatment, in which salivary calculus is present in considerable amount, dental decay rampant, several teeth with discharging abscesses, or suppurating sockets from pyorrhea alveolaris (Riggs disease), many difficulties are presented; difficulties which cannot be overcome except by a dentist or a dental nurse trained for this particular service. There is great need in all of our hospitals and sanitariums for nurses of this character. Genteel young women who have received special training to fit them to take charge of general mouth hygiene, to remove salivary calculus, relieve pain from exposed pulps, treat abscessed teeth and other suppurative conditions of the mouth, under the direction of the dental attendant.

Except in very uncleanly and badly diseased mouths, the nurse will be able to render considerable relief and give much comfort to her patients by following the regime just laid down.

As soon as a patient is strong enough to sit up in bed, the toothbrush should be used, rinsing the

mouth with sterile water or a saturated solution of boric acid flavored with orange water for its refreshing effects.

It is never wise to prolong the process of mouth cleansing to the point of causing fatigue, as this would be harmful. Gentleness of touch, dexterity of manipulation and a sympathetic manner will soon allay all nervous apprehensiveness on the part of the patient; for it is a peculiar fact that most people have a nervous dread of dental manipulations.

In the treatment of mouths affected with rapid dental decay, from the hyper-acid condition already mentioned, the deleterious effects of the acids upon the teeth may be counteracted by the frequent use of alkaline or antacid solutions, such as bicarbonate of soda, one teaspoonful to a half a glass of tepid water, or lime water in the same proportions.

Pregnant and nursing women cannot be too careful about their mouth conditions, as their teeth are prone to dental decay during those periods. The old saying among midwives, which goes back to the early history of civilization, “For every child a woman bears, she loses a tooth,” though not absolutely true, is based upon the observed fact that during pregnancy and lactation dental diseases are much more prevalent and serious than during other periods, and that teeth are frequently lost during those periods. Perverted oral secretions, gastric indigestion, malnutrition and faulty metabolism are doubtless the underlying causes.

Many of these women suffer from inflamed and bleeding gums. This is in all probability due to plethora of the upper part of the body induced by the known increase in the volume of blood during pregnancy, and by impeded circulation resulting from the pressure of the gravid uterus upon the descending aorta.

Pregnant women should protect themselves against the loss of their teeth by frequent visits to the family dentist. No woman who can prevent it, should allow herself to approach the lying-in period with her mouth in an unclean or diseased condition, as septic conditions of the mouth are exceedingly dangerous to the lying-in woman. Many accouchers are now so impressed with this fact that they insist upon their patients having all septic teeth rendered sterile by proper dental treatment, or extracted, before the lying-in period, or refuse to be held responsible for the after results, if sepsis follows parturition. Many surgeons, likewise, refuse to operate in certain cases, especially abdominal cases, or general non-septic cases, until the mouth and teeth have been carefully inspected for septic conditions, and, if present, cured or removed before undertaking the more serious operations.

Only a few years ago no such thought was given to the possible dangers to the success of a delivery, or of a surgical operation from a septic condition of the mouth. These facts are becoming more and more widely recognized by the profession, and with corresponding benefit to suffering humanity.

Pregnant and nursing women frequently complain of excessive sensitiveness of their teeth to changes of temperature and to sweets and acids. This condition is usually due either to an unclean condition of the mouth, with acid fermentation; to food debris, or to dental decay either superficial or progressive in its character. This may be overcome by thorough cleanliness of the mouth, the treatment and filling of the decayed teeth and the use of bicarbonate of soda, milk of magnesia, or lime water, as indicated on a preceding page.

In the brief time allotted to me for the presentation of this subject, I have been able to touch only a few of the high places. The paper is, therefore, more or less incomplete and might, with advantage, be considerably elaborated.

If, however, I have interested you sufficiently in this matter to cause you to give it a little serious thought and attention, my mission will have been fulfilled.

I am sure that, if you give it this thought, you will see the necessity of every hospital having upon its visiting staff a thoroughly competent dental surgeon, or a dental-interne and one or two specially trained nurses who will, under his direction, care for the teeth and mouths of the seriously ill and the bed-ridden patients who, by reason of their infirmities, are unable to care for themselves, and thus, by a proper hygienic regime, prevent much suffering, relieve acute pain when present, arrest in its incipency the ravages of dental caries, and keep the other oral tissues in a comparatively healthy condition.

COMPLETE REMOVAL OF PAROTID GLAND WITHOUT INJURY TO FACIAL NERVE.*

By J. HENRY BARBAT, M. D., San Francisco.

The complete removal of the parotid gland is indicated in cases of malignant growth, and according to most authorities on the subject, necessitates the sacrifice of the facial nerve. When the growth is limited to the parotid, and the tumor not too large, it is feasible to save the facial nerve and avoid a most distressing deformity. This can be accomplished by a careful dissection of the nerve through the parotid tissue, after finding one of its branches as far from the malignant focus as possible. The branch is then traced back to the main nerve and then worked out exactly as in the dissecting room. This can usually be accomplished without cutting through the growth proper, as we find that the nerve fibres are pushed to one side instead of being involved in the malignant process. Even when nerve fibres are found passing directly through malignant tumors we very often find that the disease process has not invaded the nerves, and with correct technic it is possible to cut them out without running any serious risk of implanting malignant cells in the surrounding tissues.

Tumors of the parotid, exclusive of retention cysts, are in the majority of cases of the endothelial

type. If allowed to grow, a large proportion of these endotheliomata eventually become malignant. For this reason it is the duty of the surgeon to advise removal of these growths immediately, and if the pathological report shows the tumor to be of the mixed variety, complete removal of the parotid is indicated.

Miss B., referred to me by Doctor George H. Evans, strained her neck two years before the onset of the present trouble, and shortly after noticed a small lump in front of the right ear. Occasional attacks of slight pain, but no tenderness. The tumor has been growing steadily, and the patient seeks relief on account of the deformity produced. Examination shows a firm mass one and a half inches in diameter in front of the right ear, freely movable under the skin and over the deep structures, and evidently in the substance of the parotid gland. Palpation gives a sensation of very thick contents. No tenderness.

The first operation was done on the 19th of April, 1915. A small incision was made directly over the swelling, cutting through the gland substance into the tumor. Ten c.c. of thick gelatinous material was squeezed out, followed by very free bleeding. The cavity was packed with a strip of gauze. The gelatinous material was submitted to Drs. Ophüls and Knapp, who reported that the sections show mucous tissue in which there are many irregular, freely anastomosing spaces filled with atypical cells of epithelial type. Diagnosis, Endothelioma of parotid gland (mixed tumor).

With this diagnosis it was decided to remove the entire gland and the operation was done one week after the first one. The original incision was prolonged, and the dissection of the parotid begun from below keeping well outside the capsule. The first nerve encountered was the posterior auricular, which was dissected free and held to one side. The supramaxillary branch was next picked up and dissected back through the gland to its junction with the buccal and inframaxillary branches, which were then dissected forward until they emerged from the anterior edge of the gland. The external carotid was ligated doubly and cut, just before its terminal division, and the deep temporal vein tied.

The temporofacial division of the facial nerve was then dissected forward through the gland, the upper ends of the temporal and internal maxillary arteries tied and the gland removed, skin closed with horsehair and silkworm gut drain placed at lower angle. Paralysis of the facial muscles was complete. The wound healed without any complications, and massage and electricity were instituted two weeks after the operation.

The first evidence of returning motion occurred on June 21, eight weeks following operation, in the depressor anguli oris. This was followed in a few days by motion in the risorius. Next came the elevators of the upper lip and intrinsic nasal muscles, then the orbicularis palpebrarum and corrugator supercilii. The last muscle to be completely restored was the orbicularis oris, evidenced

* Read at the St. Luke's Hospital Clinical Evening, San Francisco County Medical Society, December 7, 1915.

by the patient's ability to whistle. This occurred about 18 weeks after the operation.

Discussion.

Dr. Alfred Newman: Dr. Barbat said that in the case of a mixed tumor of the parotid—even a small tumor—it is necessary to do this radical operation. I operated on one of these tumors of the parotid, a small tumor about the size of a walnut, situated in front of the ear, which I mistook for a wen. I operated in the office under local anesthesia, and made a cosmetic incision about the angle of the jaw. After I got into the tumor, I saw it was not a wen, but something with tentacles firmly anchored in the substance of the parotid, which is typical of the capsule of such growths. The capsule burst and the tumor masses poured out. All that was left to do was to curette it out, put in a drain and sew up the wound. That was seven years ago, and fortunately the growth has not yet returned.

These things usually run in pairs, and shortly after I got another patient with a similar tumor, but this time I made the diagnosis beforehand. I operated it with the thermocautery, simply cutting the tumor out with the red-hot cautery and closing up the wound at once. This case has also remained well.

CASE REPORTS.*

By PAUL S. CAMPICHE, M. D., San Francisco.

The first man fell down in a mine and sustained several injuries. He was treated four months in another state, then he came to San Francisco. In March 1915 I examined him. The left elbow was completely ankylosed at an angle of 165 degrees, evidently as the consequence of a traumatic infection. The right leg had a shortening of nearly three inches of which two and one-quarter were due to a fracture of the shaft of the femur, and half an inch due to the fracture of the tibia and fibula. This last fracture was left alone as the general alignment of the tibia was good, in spite of the slight shortening. The right femur, which had an angular deformity and much shortening, was treated by linear osteotomy with hammer and chisel, and the leg put in Heusner's extension (with flannel and rosin solution).

For the ankylosis of the left elbow I did (the same day) a resection with arthroplasty with an attached flap of fascia taken from the back of the arm.

You see the result now. The motion of the left elbow is perfect. As to the femur, the X-rays show that the shortening is now only one-half an inch. Counting the tibia this leaves a total shortening of one inch for the whole leg. This is the best we could do, owing to the marked retraction of the muscle which had taken place during the four months. The patient could not walk even with crutches, and was carried into my office by some of his friends, so that in spite of the slight shortening, he is well pleased with the result.

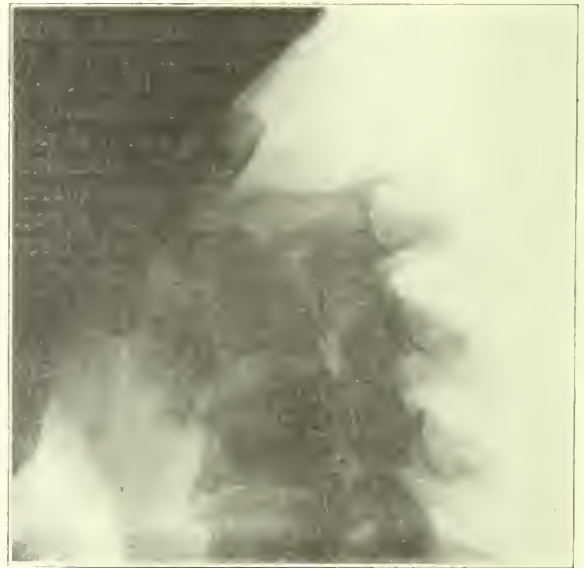
The second patient had a transverse fracture of the patella, which I wired on October 16, 1914.

The test for a good result for fractures of the patella is to have the patient climb on a chair with the bad leg first. You see that he can do that. I prefer silver wire to catgut in suturing the patella, because it allows us to move the joint two or three days after the operation (which I think would not be safe with catgut), and of course the early movements insure a much more rapid recovery of the function of the joint.

The third patient is a very simple case. He had a fracture of the humerus with muscular in-

terposition which I diagnosed by the absence of crepitus and which was confirmed by the X-ray's plate. The indication to operate was absolute here. I dissected the two muscles out of the way and wired the two fragments and got solid union in five weeks. This shows in my opinion how unnecessary the use of splints is when we can get a solid union by a much more simple procedure, using only a bit of silver wire. Of course the use of external splints is most important. In this case we used the classic cardboard dressing.

The last case is the one of a gentleman 74 years old, who noticed about a year ago, without injury, fall, or any other cause, that his head was dropping forward. When we saw him first his lower jaw was resting on his sternum. There was a marked kyphosis of the cervical spine; the forked spinous process of the axis could be felt, but above that the occipital bone seemed sharply displaced forward. The head resting on the sternum, we could not explore the spine from the mouth, as the patient could not open his mouth. The movements were very limited but not very painful. There was no paralysis of any kind.



The excellent X-ray picture taken by Mr. Sabalot, the radiologist of the French Hospital, confirmed our diagnosis of forward dislocation of the head. The odontoid process could not be seen and had apparently been destroyed and the atlas carrying the head had slipped forward. The medulla was bent at a right angle. The absence of nervous symptoms was probably due to the fact that the trouble came on very slowly.

We have thought of a secondary neoplasm but could not find any primary lesion. The fact that he moves without much pain speaks against tuberculosis. We suspect that the odontoid process has been destroyed by some gumma and the fact that he has improved since he takes iodide of potassium seems to confirm the view.

Dr. T. T. Watkins: I think Dr. Campiche is to be congratulated, speaking generally, upon his results. The femur case is a good result and satisfactory for that sort of work.

The elbow case is interesting by reason of the fact that the elbow is, perhaps, the only joint in which most of us have had any success with the arthroplasty, as adopted by Dr. Murphy. You will notice there is a good deal of side to side play. You will notice, also, that he has very little strength as yet. However, I think that he will, in time, reacquire considerable strength in

* Read before the San Francisco County Medical Society, November 16, 1915.

that arm. Eastern colleagues of mine have called my attention to the fact that no matter what we do to the elbow, whether we put in membrane or fascia, or do a generous excision, the result is going to be fairly good. Not so the knee; not so the hip.

The Doctor's most interesting case, of course, is that neck case, because, as he has told it, that is not an acute affair. I have seen one such case with a partial dislocation, where the examining finger in the mouth and the X-ray proved the presence of characteristic deformity. This was an old Italian, who found relief from sub-occipital and post auricular pain.

I have seen two cases only which were the result of trauma. In one case, a child was running along on skates and fell with her companion and with her neck across the companion's foot. It snapped the neck and would have broken it, excepting the floor stopped the further progress of the head. The X-ray showed very clearly a true dislocation of one-half of the atlas upon the axis. I put the child up with constant extension and let her alone. I was afraid to attempt manipulative reduction. I knew the shock must have torn in part at least the check ligaments of the odontoid and that the respiratory center was just in front of the odontoid process. The next morning the dislocation had reduced itself under the influence of the permanent traction and the relaxation caused by sleep.

The other was a queer case. A man tumbled off a reaper backward and struck his head. This was at once displaced to one side and he suffered great pain radiating up over the head. I cut his shaving strop into two pieces and made a head sling to support the head. I then raised the head of the bed on stilts. He had great pain, radiating upward along the posterior articular and sub-occipital nerve. Relief from pain was immediate. He fell asleep as we were looking at him, and he had not slept for three days. He, too, reduced himself, so to speak, and he got well also.

The Doctor's patient presents the result of a slow process, and I think to attempt to correct it would probably kill the man by causing his odontoid process to destroy his respiratory center.

Again I wish to thank Dr. Campiche for presenting so interesting a group of cases.

BOOK REVIEWS

Bandaging. By A. D. Whiting, M. D., Instructor in Surgery at the University of Pennsylvania. 12 mo. of 151 pages, with 117 original illustrations. Philadelphia and London. W. B. Saunders Company, 1915. Cloth, \$1.25 net.

Any addition to the sadly neglected art of bandaging ought to be greeted with satisfaction by all of us, and Whiting's effort in this field deserves due credit. The author omits all the old Latin names, for which I do not blame him, and he has also discarded many of the classic bandages, and replaced them by more simple contrivances of his own. Experience will show whether these hold as well as the old ones.

We regret to find no reference to such works as Hoffa's *Verbandlehre*. One should not bother with such names as Thoracico-Scapular, Mento-Vertico-Occipital, and so forth, which the author uses for the handkerchief bandages. The figures are numerous and generally correct.

The book deals only with the roller bandages and with the handkerchief bandages, and for these can be recommended to students and nurses.

P. C.

The Starvation Treatment of Diabetes With a Series of Graduate Diets as Used at the Massachusetts General Hospital. By Lewis Webb Hill, M. D., and Rena S. Eckman, Dietitian. Introduction by Richard C. Cabot, M. D. Cloth. Price, \$1. Pp. 72. Boston: W. M. Leonard, 1915.

This little monograph contains a brief statement of the Allen treatment of diabetes as practiced at the Massachusetts General Hospital together with a carefully prepared list of graduated diets. The technic of the Allen treatment is not difficult to master according to this book. In fact it would seem very simple were it not that the real difficulty comes when the actual diet problems confront the physician who is not accustomed to figuring diets in percentages of certain definite foodstuffs.

To the practicing physician this little book should be of value provided he has followed the literature in regard to the Allen treatment. As a ready reference it can certainly be recommended to all physicians.

W. W. B.

Diseases of the Nervous System: A Text-Book of Neurology and Psychiatry. By Smith Ely Jelliffe, M. D., Ph. D., Adjunct Professor of Diseases of the Mind and Nervous System, New York Post-Graduate Medical School and Hospital, and William A. White, M. D., Superintendent of the Government Hospital for the Insane, Washington, D. C.; Professor of Nervous and Mental Diseases, Georgetown University; Professor of Mental Diseases, George Washington University, and Lecturer on Psychiatry, U. S. Army and U. S. Navy Medical Schools. Octavo, 796 pages, with 331 engravings and 11 plates. Cloth, \$6.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

The contents of this book of 781 pages are divided into three major portions. Part I deals with the Psychico-Chemical Systems (vegetative or visceral neurology), Part II, Sensori-Motor Systems, and Part III with Psychic or Symbolic Systems. The classification will thus be seen to be distinctive. Part I contains references to important advances in our knowledge of diseases of the sympathetic nervous system and of the glands of internal secretion. In general, it may be said of this work that the different phases of neurology and psychiatry have been brought up to date; the book is profusely illustrated by well chosen diagrams and photographs. Especial mention should be made in this regard of the numerous colored plates and accompanying translated descriptions taken from the late edition of "*Semiologie des Affections du Systeme Nerveux*," by J. Dejerine. A feature worthy of mention is the historical aspect of many of the diseases discussed.

It is to be expected that such a warm exponent of the Freudian hypothesis as is Jelliffe, would discuss the psychoneurosis, and such psychoses as dementia praecox and the paranoid states, from the standpoint of interpretation and treatment by psychoanalysis. This discussion, however, is not to the exclusion of the discussion of other theories and other treatments, and while the tendency to incline toward the Freudian views is evident, it is noted with pleasure that the treatment of the subject is conservative—much more so than we have noted in other recent works on this subject. In Chapter XVI an outline is given of the psychoanalytic theory. The concluding chapter discusses idiocy, feeble-mindedness and the defect groups, conditions toward which our attention has been directed of late because of their importance in relation to pedagogy and criminology.

W. F. S.

SOCIETY REPORTS

ALAMEDA COUNTY.

Annual Meeting December 21, 1915.

The regular monthly and annual meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, December 21, 1915. The meeting was called to order by the President, Dr. G. G. Reinle. The minutes of the previous meeting were read and approved.

The following program was presented:

- I. Case Report. Dr. Florence Sylvester.
- II. Psychogenetic Factors in Organic Nervous Diseases. Dr. Clifford W. Mack.
- III. The Etiology of Cancer. Dr. Geo. T. Pomerooy.

The secretary read resolutions in regard to the death of Dr. G. B. N. Clow, which were ordered placed in the minutes and a copy sent to the family.

The reports of the secretary of the Board of Councilors and of the secretary-treasurer were read and on motion accepted.

Dr. Makinson, chairman of the Board of Tellers, announced the result of the annual election as follows:

President, Dr. David Hadden; vice-president, Dr. W. H. Irwin; secretary-treasurer, Dr. Elmer E. Brinckerhoff; councilors, Drs. L. P. Adams, W. A. Clark, J. L. Milton, Pauline S. Nusbaumer, Alvin Powell and Dudley Smith; delegates 1916-17, Drs. A. S. Kelly, T. C. McCleave, J. L. Milton and Geo. G. Reinle; alternate delegates, Drs. G. Irwin Brinckerhoff, S. H. Buteau, Thos. J. Clark, A. F. Gillihan, D. Hadden, Gertrude Moore, R. T. Stratton and W. H. Strietmann.

The new president, Dr. Hadden, was introduced. Dr. Irwin, the new vice-president, was not present. There being no further business the meeting adjourned.

ELMER E. BRINCKERHOFF, Secretary.

FRESNO COUNTY.

The Fresno County Medical Society met on the evening of January 4, 1916, in the offices of Drs. T. N. Sample and A. B. McConnell, Dr. Harry J. Craycroft (vice-president) presiding. About thirty members present.

The Committee on Arrangements for the State Society Meeting to be held in Fresno in April, reported through its Secretary, Dr. Staniford, that several sub-committees had been appointed and that considerable progress was being made in the preparation for this meeting. It was reported that each member of the General Committee thoroughly appreciated the responsibility imposed upon him and that he was not only willing, but eager, to assume any additional duties which the Chairman might wish to assign to him.

The following resolution was read for the second time and adopted:

Resolved, That the By-Laws be so changed as to read: "The President and the Secretary shall be ex-officio members of the Board of Governors, and the Secretary of the Society shall be the Secretary of the Board of Governors."

The election of officers for the year 1916 was then held and the following were accordingly elected:

President, Dr. L. R. Willson; First Vice-President, Dr. Harry J. Craycroft; Second Vice-President, Dr. J. H. Pettis; Secretary, Dr. Kenneth J. Staniford; Assistant Secretary, Dr. C. D. Sweet; Treasurer, Dr. T. M. Hayden; Member of Board of Governors, Dr. George M. Aiken; Delegates to State Society, Drs. A. B. McConnell, J. H. Pettis, C. P. H. Kjaerbye; Alternates, Drs. W. P. Miller, E. J. Couey, Guy Manson.

The paper of the evening was by Dr. Langley Porter of San Francisco, and was certainly a most enjoyable one upon the subject "Obstruction of

the Bowel in Infants and Children." Dr. Porter presented the subject in a very thorough manner, giving case-histories, and illustrating various conditions of obstruction with specimens and photographs.

Dr. Morton Gibbons of the medical staff of the Industrial Accident Commission was also a guest of the Society, and discussed, at length, the laws governing Accidents and Compensation. We are greatly indebted to Dr. Gibbons for being with us and giving us a better insight to this phase of our medical work.

The Society accepted the invitation of Dr. A. H. Sweeney to meet with him in January.

After a general social hour, the meeting adjourned.

KENNETH J. STANIFORD, Secretary.

The Fresno County Medical Society held its regular monthly meeting on the evening of February 1st with Dr. A. H. Sweeney.

Dr. J. H. Pettis, 2nd Vice-President, presided, with twenty-five members present. Minutes, January meeting read and approved.

The application of Dr. Wallace B. Hardie of Del Rey for membership was read, before being referred to the Secretary of the State Society for his consideration.

Annual reports of the Secretary and Treasurer for 1915 were read and referred to the Finance Committee.

The Secretary of the Committee on Arrangements for the coming State Society Meeting reported that most of the arrangements had been completed, already, and that all plans for the entertainment of the Society would be announced very soon.

It was moved, seconded and carried that a warrant be drawn on the Treasurer for the amount due the State Society for all members in good standing up to the present time; and that this amount be forwarded to the State Secretary.

A copy of Resolutions passed by The Southern Medical Association at Dallas, Texas, November 1915 was read. These Resolutions asked for a material increase in the number of medical officers in a proposed reorganization of the military establishment. The Resolutions were endorsed by the Society and the Secretary was instructed to send copies to our Senators and Congressmen asking for their careful consideration of the same.

Resolutions passed by the Los Angeles County Medical Association January 20, 1916, in regard to the possibility of bringing about the adoption of a more equitable fee table for Industrial Accident work, were presented for consideration. The reading of these resolutions resulted in a great deal of discussion pro and con, most of the members taking part. A motion was made, seconded and carried that the Society endorse the Resolutions as read.

Many routine business matters were considered and there was no scientific program.

March meeting will be held with Drs. Walker and Kjaerbye.

After general social hour and refreshments, meeting adjourned.

KENNETH STANNIFORD, Secretary.

MARIN COUNTY.

The regular monthly meeting for January, 1916, was held at the home of Dr. H. O. Howitt, San Rafael. A very interesting paper on "Abarticular Gout" was read by Dr. H. D'Arcy Power of San Francisco. There followed a general discussion; after which refreshments were served.

The following officers were elected for the ensuing year: President, Dr. L. L. Stanley, San Quentin; Vice-President, Dr. R. G. Dufficy, San Rafael; Secretary, Dr. O. P. Stowe, Mill Valley; Trustees—Dr. A. H. Mays, Sausalito; Dr. W. F. Jones, San Rafael; Dr. J. H. Kuser, San Rafael; Delegate to State Convention at Fresno, Dr. E. J. Hund, San

Anselmo; Alternate Delegate, Dr. H. O. Howitt, San Rafael.

Dr. James P. Crawford of San Quentin was elected to membership.

O. P. STOWE, Secretary.

ORTHOPEDIC ASSOCIATION.

The American Orthopedic Association announces the appointment of Dr. Mark H. Rogers, Boston, as editor of the American Journal of Orthopedic Surgery, the only periodical in the English language devoted to Orthopedics. This Journal, which has now completed 13 volumes as a quarterly publication, will henceforth be issued monthly, the first number in the new form being that of January, 1916.

The office of publication has been transferred from Philadelphia to Ernest Gregory, 126 Massachusetts avenue, Boston. The subscription price is \$4.00 per year.

POLYCLINIC BANQUET.

The annual banquet of the San Francisco Polyclinic Society was held at Solari's Grill on January 12, 1916. Important matters relating to the future of the Polyclinic were discussed by Drs. P. K. Brown, Regensberger, Newmark, Horn and others.

The officers elected for the ensuing year are: President, Dr. W. E. Stevens; Vice-President, Dr. H. P. Roberts; Secretary and Treasurer, Dr. A. S. Green.

SACRAMENTO COUNTY.

The regular annual meeting of the Sacramento Society for Medical Improvement was called to order by Dr. J. H. Parkinson, at 8:30 p. m., December 21, 1915.

The financial statement was read by the Secretary. Budget for the following year was read. The assessment of \$6.00 for the State Society and \$5.00 for the local Society, \$11.00 in all, was voted by the Society. Dr. W. A. Sawyer, Secretary of the State Board of Health, was elected to membership. The following Directors were elected for the ensuing year: Drs. J. H. Parkinson, J. W. James, S. E. Simmons, F. F. Gundrum. Upon the organization of the Board: Dr. J. H. Parkinson, President; J. W. James, Vice-President; F. F. Gundrum, Secretary-Treasurer. As no meeting of the State Society was held in 1915, the delegates elected December 15, 1914, were instructed to hold office and present themselves at the Fresno meeting. Adjourned 10 p. m.

F. F. GUNDRUM, M. D., Secretary-Treasurer.

The regular January meeting of the Sacramento Society for Medical Improvement was called to order by Dr. J. H. Parkinson, at the Hotel Sacramento, at 8:45 p. m., January 18, 1916.

Thirty members present. Minutes read and approved.

Report of Cases:

1. Dr. S. E. Simmons reported a case of Cholelithiasis with pancreatic cyst developing after the operation for stones.
2. Dr. G. A. White reported a case of dumbbell-shaped gallstones, crushing of which was necessary for removal.
3. Dr. H. D. Barnard reported a case of atresia of vagina.
4. Dr. W. A. Beattie reported a case of Reynaud's disease.
5. Dr. E. T. Rulison reported a case of toxemia of pregnancy treated with serum from a normally pregnant patient.

The paper of the evening, "High Caloric Diet in Children in Typhoid Fever," read by Dr. H. H. Yerington of San Francisco. Discussed by Drs. S. E. Simmons, J. W. James, E. W. Twitchell, L. G. Reynolds, E. Pitts, G. A. White, A. B. Diepen-

brock, W. A. Beattie, E. T. Rulison, F. Grazer, E. C. Turner, S. J. Wells, T. J. Cox, F. F. Gundrum, J. H. Parkinson. Discussion closed by Dr. Yerington.

The Secretary then read the minutes of the meeting of April 1868, upon which date a paper upon Typhoid was read.

Report of Board of Directors read.

Letter from Dr. Sherman re resolutions from Dallas, Texas, read. Moved by Dr. Hanna, seconded by Dr. Dillon and carried that these resolutions be adopted and copied and sent to the Third District of California Representative in Congress.

Vote of thanks extended to Dr. Yerington.

Adjourned 11 p. m.

F. F. GUNDRUM, Secretary.

SAN DIEGO COUNTY.

At the Annual Meeting of the San Diego County Medical Society the following officers were elected:

President, Dr. John C. Yates, Watts Building, San Diego; Vice-President, Dr. Otto G. Wicherski, Watts Building, San Diego; Secretary-Treasurer, Dr. Andrew J. Thornton, 415 Elm Street, San Diego.

ANDREW J. THORNTON, Secretary.

SAN JOAQUIN COUNTY.

The first regular meeting of the San Joaquin County Medical Society for the year 1916 was held at the residence of Dr. W. J. Young, Friday evening, January 28th. The following members were present: Drs. W. J. Young, F. P. Clark, R. T. McGurk, B. J. Powell, H. Smythe, C. F. English, H. J. Bolinger, J. D. Dameron, R. R. Hammond, L. Dozier, L. R. Johnson, J. V. Craviotto, R. B. Knight and D. R. Powell, with Dr. McNeil of Stockton and Dr. Emmet Rixford of San Francisco as guests.

Dr. Emmet Rixford presented the paper of the evening on the mechanism of fractures, discussing in particular fractures about the elbow.

At the close of the paper, the members adjourned to partake of a delightful social repast.

DR. DEWEY R. POWELL,
Secretary.

SANTA BARBARA COUNTY MEDICAL SOCIETY.

The Santa Barbara County Medical Society met in regular Annual Business Session at the Arlington Hotel on Monday, January 10th, at 8 p. m. The meeting was called to order by the President, Dr. William H. Flint, the Secretary, Dr. William T. Barry, at his desk. Present: Drs. Barry, R. Brown, Flint, Campbell, Ryan, Stevens and T. A. Stoddard, a total of seven members; no guests and no visitors.

After reports of a few clinical cases, and an excellent paper by Dr. Rexwald Brown, entitled "A Surgical Review," the Society proceeded to the election of officers for 1916, with the following result:

President, Charles S. Stoddard, M.D., Santa Barbara; Vice-President, William T. Lucas, M.D., Santa Maria; First Vice-President, L. R. Ryan, M.D., Santa Barbara; Secretary-Treasurer, William T. Barry, M.D., Santa Barbara; Delegate (to serve two years), William H. Campbell, M.D., Santa Barbara; Alternate Delegate (to serve two years), Charles S. Stevens, M.D., Santa Barbara.

On motion of Dr. Stevens, the Secretary was instructed to prepare a circular letter addressed to the druggists of Santa Barbara, calling their attention to the dangerous practice (of some) of counter prescribing, refilling prescriptions unauthorized by the physician, and the necessity of obeying to the letter the Harrison narcotic law.

The Secretary was authorized to consult with the City Attorney. The Chair, upon motion, appointed a committee consisting of Drs. Barry and Stevens.

to interview Public Library authorities, looking to the securing of a medical section in the library building for the use of the physicians of Santa Barbara county.

After a cordial vote of thanks to the retiring President, Dr. William H. Flint, the Society adjourned.

WILLIAM T. BARRY, M. D., Secretary.

N. B.—The Secretary reports the election of two new members: Harold F. Pierce, M. D., Santa Barbara; Frederick A. Brown, M. D., Lompoc.

STANFORD UNIVERSITY MEDICAL SCHOOL.

Cooper Clinical Society.

You are cordially invited to attend the meeting of the Cooper Clinical Society which will be held on Monday, March 6, 1916, at 8 p. m., Room 311 of the Clinic and Laboratory Building, Stanford University Medical School, corner Sacramento and Webster streets.

Program.

1. Cases from Lane Hospital.
2. "Botulism, Its Occurrence in California" (demonstration of slides). E. C. Dickson.
3. "The American Red Cross Work in Serbia. Shadworth Beasley.

GEORGE D. BARNETT,
Secretary.
H. E. ALDERSON,
President.

STANISLAUS COUNTY.

The following report of the last meeting of the Stanislaus Medical Society is submitted:

A joint meeting of the Stanislaus and Merced County Medical societies was held in Turlock on the evening of January 14, sixteen members being present. Dr. Emmet Rixford of Leland Stanford gave the address of the evening, his subject being "The After Treatment in Laparotomy Cases." This was a practical, plain talk that had meat in it.

Dr. A. M. Field of Patterson was elected a member of the Stanislaus society. A fine banquet furnished by the physicians of Turlock followed the address. The evening was profitably spent and thoroughly enjoyed by all present.

E. F. REAMER, Secretary.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of January, 1916, the following meetings were held:

Tuesday, January 4th—Section on Medicine.

1. Presentation of Cases from the Skin Clinic of Stanford University Medical School. Harry E. Alderson.
 - (a) Lupus vulgaris.
 - (b) Leprosy.
 Discussed by E. D. Chipman, Howard Morrow, M. Silverberg, A. A. O'Neill and H. E. Alderson.
 - (c) Report of Case: Syphilis acquired and cured during pregnancy; normal delivery of healthy child; reinfection of mother.
2. Presentation of Cases and Lantern Slide Demonstration. Howard Morrow.
 - (a) Rodent nodule of cheek.
 - (b) Microscopic section of burrow of scabies, showing female ascaris, ova and excreta in one field.
 - (c) Leprosy.
 - (d) Asymmetry.
3. Streptococcal Infections of the Skin. E. D. Chipman.
 Discussed by H. E. Alderson, J. C. Pickett, C. F. Welty, Howard Morrow, B. Jablons and E. D. Chipman.

Tuesday, January 11th, General Meeting

University of California Hospital Clinical Evening.

1. Calcification of aorta due to syphilis. Tuberculosis of esophagus. H. C. Moffitt. Case of anemia with neuritis. Mediastinal obstruction. G. E. Ebricht.
2. Classification and Treatment of Hemorrhagic Diseases. S. H. Hurwitz.
3. Laryngeal stenosis. S. T. Pope. Subphrenic abscess. Extensive carcinoma of stomach; jejunostomy. W. I. Terry.
4. Demonstration of Kidney and Ureteral Plates. Frank Hinman.
5. Congenital cerebral malformation. Traumatic encephalitis. Congenital syphilis. W. P. Lucas.
6. Unusual case of sarcomatous degeneration in small tumor with pregnancy. Carcinoma of the uterus. Frank Lynch. Demonstration of specimen of uterine myoma; myomectomy. J. C. Neel.

Tuesday, January 18th—Section on Surgery.

1. Tumors of the Appendix. J. P. Pratt. Discussed by E. Rixford, Saxton Pope, G. C. Macdonald, H. A. L. Ryfkogel and H. R. Oliver.
2. Some Interesting Tumors of the Bowel. J. F. Cowan. Discussed by E. Rixford.
3. The future welfare of the Surgical Section was discussed by Harold Brunn, Sol. Hyman, J. Rosenstirn, E. Rixford and F. B. Carpenter.

Tuesday, January 25th—Section on Eye, Ear, Nose and Throat.

1. Demonstration of Laryngeal Case. Harvard McNaught. Discussed by H. Horn, C. F. Welty and H. B. Graham.
2. Pyorrhea as a Focal Disease. T. Sydney Smith. Discussed by F. C. Pague, C. F. Welty, H. McNaught, J. T. Watkins and T. S. Smith.
3. Remote Effects of Resection of the Nasal Septum. Harvard McNaught.

Transactions of the Surgical Section of the San Francisco County Medical Society.

Regular meeting, January 18, 1916. Chairman, Harold Brunn, M. D.

(Discussions abstracted by James Eaves, M. D.). Tumors of the Appendix. J. P. Pratt, M. D.

Dr. Pratt briefly reviewed the literature of tumors of the appendix, including polyps, myoma, fibroma, myxoma and lipoma of the benign types; carcinoma and sarcoma of the malignant.

He showed a specimen of pseudo-mucinous cyst of the appendix and several carcinomas having their origin in this region. He stated that in the last 100 cases examined at the University of California Hospital, 4% of carcinomas were found, which is higher than the usual percentage. He discussed the different opinions of pathologists concerning these carcinomas, and pointed out their benignancy in comparison with carcinomas elsewhere. In the discussion of pseudo-myxomas he drew attention to the occurrence of pseudo-myxoma peritonei resulting from their rupture into the peritoneal cavity; this myxomatous substance, he stated, had frequently been mistaken for colloid carcinoma.

In the discussion following, Dr. Emmet Rixford stated he had not found 4% in his experience. In one case whilst operating for hernia he found the sac filled with jelly and on further investigation discovered a primary gelatinous carcinoma of the appendix. The man is alive and well eight years after operation. In another case whilst operating for intussusception he discovered a primary carcinoma of the appendix which was the causal factor.

Dr. Saxton Pope spoke of a case he had seen six months ago with acute appendicitis, and at that

time remarked upon the high leucocyte count which was out of all proportion to the symptoms—24,000 W.B.C. No fever, no pain. Two weeks ago Dr. Terry operated, and found a carcinoma of the appendix with pus and involving the cecum secondarily. Inoperable.

Dr. H. A. L. Ryfkogel called attention to a case he had operated 23 years ago for retroversion and at the same time removed the appendix, presumably healthy. Later it was discovered to contain a small tumor which turned out to be a typical carcinoma.

Dr. H. R. Oliver referred to a case taken at operation to be carcinoma but later proved to be scar tissue due to abscess formation.

Dr. G. C. Macdonald stated that he removed an appendix in which later examination revealed a myxomatous cyst.

Dr. Brunn, Chairman of the Section, thanked Dr. Pratt and felt that the paper had shown how important it was to have routine microscopical examinations always made.

Some Interesting Tumors of the Bowel.

J. F. Cowan, M. D.

Dr. Cowan showed a series of remarkable specimens of the gastro-intestinal tract. These included carcinoma of the esophagus; hypertrophic stenosis of the pylorus in infancy; a very rare specimen of sarcoma of the large bowel; carcinoma of the colon and rectum; scirrhus carcinoma involving the entire wall of the stomach; large papillary adenocarcinoma of the stomach; pedunculated fibrosarcoma of the sigmoid; and large fibrosarcoma (sessile) involving the wall of the cecum.

LOS ANGELES COUNTY MEDICAL ASSOCIATION.

Annual Report for the Fiscal Year Ending Thursday, December 16, 1915.

To the Members of the Los Angeles County Medical Association:

Your Secretary-Treasurer begs leave to submit the following report for the forty-fifth year of the Association.

Financial Report Los Angeles County Medical Association.

(For the Fiscal Year Ending December 16, 1915.)

A. Maintenance Income for 1915.

Total amount of 1915 dues received in 1915 was\$10,422.50

This income is divided as follows:

671 Members at \$15.00.....\$10,065.00

23 Members at \$7.50..... 172.50

(These were new members

who entered after July 1st)

10 Members at \$16.00..... 160.00

(\$1.00 penalty for delin-

quent payments)

1 Member at \$11.00..... 11.00

1 Member at \$9.00..... 9.00

1 Member at \$5.00..... 5.00

(These last three members

from other county societies

—at the difference in

amount of dues.)

Total\$10,422.50

Miscellaneous Income..... 32.38

(This for insertion of doctors' names under the number of the Telephone Exchange in telephone directories, etc.)

Balance carried over from 1914..... 42.54

Grand total all income during 1915..\$10,497.42

B. Maintenance Expenses of 1915.

1. Paid Assessments to State Society (\$6.00 per member.) (Unpaid assessments to a total of \$144.00 still outstanding)	\$ 4,092.00
2. Envelopes and Postage	325.35
3. Printing Bills (Unpaid bills to a total of \$506.00 outstanding).....	469.33
4. Hall Rent (Unpaid bills to a total of \$40.00 outstanding)	135.00
5. Refreshments at Regular Meetings (Unpaid bills to a total of \$100.00 outstanding)	533.80
6. Clerical Expenses	683.40
7. Branch Refundors for Branch Expenses and Refundors to Out-of-town Members)	800.00
8. Miscellaneous (Stereopticons, etc.)...	120.77
9. Telephone Exchange (Rent of Room and Switch-boards, and Salaries of Operators)	3,333.25

Grand Total all expenditures during 1915..\$10,492.90

C. Summary.

Grand total all income during the year 1915\$10,497.42

Grand total all expenditures during the year 1915 10,492.90

Balance on hand December 16, 1915..\$ 4.52

From the above it will be seen that while the Association nominally closes its fiscal year with a balance of \$4.52, there is a total deficit, when one includes the unpaid bills, namely, the printing bills, bills for hall rent, etc., of \$785.48.

It must be remembered, however, that the above deficit which exists today (December 15, 1915), includes the deficits of the previous years, which may be said to have started in 1913, when \$1186.94 was spent in the prosecution of illegal practitioners, and when the prescription outfits were purchased at a cost of \$1114.41, which latter indebtedness, however, because of lack of funds, was not paid until 1914 (last year).

Of the above total deficit of \$785.48 existing today (December 15, 1915), the sum of \$382.43 was mentioned under item 3 of the last year's financial report, and was paid by check No. 39 of the current year.

There is, therefore, a total net deficit of \$403.05 existing for the current year, and this deficit would be a deficiency which would arise every year unless in some way the expenditures of the Society were cut down.

The matter of this deficit has been discussed by the Board of Councilors, and the conclusion reached was that during the coming year of 1916 it would be desirable to eliminate certain expenditures of the Society, so that the year 1916 would be closed without a deficit. This end may be attained by the elimination of such expenses as the four full-page advertisements in the Los Angeles City Directory, containing the roster of the members of the Association; by a reduction of the advertisements of the Telephone Exchange, which have been running in the telephone directories (both of which items were needed to help establish our telephone exchange on its present firm basis); by doing away with refreshment features when we entertain prominent men from the East (some of the meetings during the current year of 1915 having cost practically \$100.00 an evening because of the large number of members attending); and other expenses of minor character which could be eliminated without detriment to the progress of the Association, or the welfare of its members.

Of course, the special reason for our Society's having a deficit in the last two years, may be said

to have arisen through the institution of our County Medical Society Telephone Exchange, for otherwise there would be a large balance in the treasury which could have been used for other activities. The work, however, which that Exchange is doing (even though the expense of its maintenance is some \$3300.00 per year) has been of such tremendous value to a very large number of members of the Association, that it would be most unwise to cut down on this line of activity that has proven so powerful a factor in the development of the Society, through the advantages which it gives to the members of our organization, and to the clients of those members. Our economies must, therefore, be directed along the other lines previously mentioned, and this the Board of Councilors believes will permit us to not only close the coming year without a net current deficit, but also with a reduction in the indebtedness which we have been carrying from the two previous years.

PART II.

General Report on the State of the Association.

Considering now the state of our Society as a whole, we would take up the following items:

1. **Membership.** In spite of the comparatively hard times, we have on our membership roll at the end of the fiscal year a total of 707 paid up members, as against a total of 668 paid up members for last year. An increase therefore of 39 members for the current year.

During the year there have been a number of deaths, several resignations, several transfers, and a number of men have permitted their membership to lapse through non-payment of dues.

On the subject of membership, we may repeat again that some time in January there will be mailed to every member of the Association an application blank, and this blank each member is requested to use if possible, by presenting it to some ethical colleague whom he knows would be benefited by membership in our organization, to the end of having such a colleague join us in the work for which all ethical practitioners should jointly stand. If you know of any such men, then you are requested to place such applications in their hands as early in the fiscal year as possible, so that they may get a full return for their money spent in dues.

The membership figures for the last ten years may not be without a certain historical interest and they are here appended, your present Secretary having assumed office in January, 1910.

The net paid-up annual membership in the Society, by different years, shows as follows:

	In-crease
In year 1905 the total membership was.315	
In year 1906 the total membership was.359	44
In year 1907 the total membership was.393	34
In year 1908 the total membership was.398	5
In year 1909 the total membership was.402	4
In year 1910 the total membership was.457	55
In year 1911 the total membership was.561	104
In year 1912 the total membership was.600	39
In year 1913 the total membership was.622	22
In year 1914 the total membership was.668	46
In year 1915 the total membership was.704	36

2. **Scientific Programs.** In connection with the scientific programs of the Los Angeles County Medical Association, it is to be remembered that a double purpose is sought: first, to present scientific matter of high tone; and 2nd, to give as many members of the Association as possible, an opportunity to present before the Society a synopsis of the scientific work in which they may be particularly interested.

Under these conditions, therefore, it would be impossible to limit the essayists to a particular or

select group of members from the Association, even if such were the intention, which at no time has ever been the case.

In order to have the programs take on a broader scope, the Board of Councilors, after a discussion of this subject, recently decided to limit the time for each paper, and to follow the plan of certain of the sections of the American Medical Association, the programs of which have always been of high merit, by instituting a limitation on the time length of papers, and having essayists confine themselves to the time periods allotted to them.

It must be agreed by all, that in twenty minutes one can say a great deal; certainly one can present in a twenty-minute period a good digest of any paper, and that is after all what the Association in its open scientific meetings desires to hear, namely a good digest or presentation of major points upon which can be based an intelligent discussion by other members in the audience. The Board of Councilors asks essayists to keep this object in mind, because it is felt that the papers themselves will be of more interest, and that the incentive to a good and broad discussion will add very materially to the profit and enjoyment of the meetings.

As heretofore, a cordial invitation is extended to every member of the Association having any inclination thereto, to send in a reply slip giving the title of a paper or a case report which he would wish to present; and then if an opportunity arises, an effort will be made to place all such papers on the scientific programs.

The matter of more frequent meetings has been discussed by the Board of Councilors at different times. It will be remembered that when the Society several years ago tried to maintain weekly meetings, the average attendance materially fell off, and considerable difficulty was found in securing program material.

At the present time, also, Los Angeles supports the following additional medical organizations: Los Angeles Clinical and Pathological Society, Medical Symposium Society, Obstetrical Society, Eye Society, the Eye, Ear, Nose and Throat Section of our Society, and one or two college societies. It is to be regretted, of course, that several of these societies do not see fit to come in as sections of the County Association, because they could do this and still be practically autonomous, but they seem to feel that they would lose their independence by so doing. The Board of Councilors would probably be willing, however, to grant authority for the formation of County Society sections in the specialties, in case members of the association saw fit to take the initiative and form such sections.

The Board of Councilors has not deemed it wise to divide the work of the Association at large into medical and surgical sections, with separate officers, because it was felt that the Association should hold two general meetings each month, and that two such meetings, with a division of medical and surgical subjects at each meeting, with both medical and surgical men present, and with the refreshment and social features at the end of the meeting, would probably be productive of more interest, attendance and benefit, than four poorly attended meetings of specialists only, and without the refreshments and social features.

In all these matters, however, the Board of Councilors is again willing to try out plans which previously were found unsatisfactory, if such an experiment be the desire of the majority of the members.

Owing to the number of out-of-town essayists and others whom our Society has had the pleasure of having with it during the past year, the clinical meetings at the County Hospital have to a certain

extent been done away with; but during the coming year it is intended to again revive these clinical meetings.

The attempts to have clinical meetings and a large presentation of patients and of specimens at the Hamburger meetings have always proved abortive through lack of cooperation of many men who easily could present patients or specimens, but who for some reason or other seem reluctant to bring their patients before the Society. We suppose this arises from a diffidence in not wishing to bring patients before so large an audience. If we could secure the cooperation of a sufficient number of men, the Program Committee would be very glad indeed to try out this plan some time during the year.

The refreshment and social features of our meetings have been somewhat distinctive of our Society, and have been a big factor, without any doubt, in the building up of good-feeling and fellowship not only among older members of the Association, but especially in presenting an opportunity for our newer members to easily become acquainted with their older colleagues in the community.

The Board of Councilors is fully aware of the occasional criticisms that have come from some of the members who feel that this refreshment feature is an unnecessary expense; but in this connection, as in all the other Society's activities, we must all remember that there is not a single thing that the Society does, or tries to do, that will meet with the commendation of all the more than seven hundred members; and all that can be done is to have the Association try to do those things which will be of the largest profit and pleasure to the largest possible number of members of the Association, throwing open all privileges to every member of the Association, and then letting those who do not wish to partake of any of these privileges or pleasures, refrain therefrom, if they so desire.

But all such members at all times should remember that in this scientific organization of a body of medical men and women, banded together for the attainment of mutual scientific and professional ends, that here, as in other clubs and semi-social organizations, the best that can be done is to promote those efforts which will go to the development of the organization at large, while at the same time giving to each individual member the largest possible amount of scientific, social, professional and material returns. It may be said further, that if it be permitted the Los Angeles County Medical Association to pass judgment on its own lines of work, then it may truthfully tell itself that its many activities have not only been of a type out of the ordinary, but of a character that has excited the interest of other county units throughout the United States; and that our various lines of work have received also the commendation of many of our visitors who have been with us from time to time.

3. Branches. In addition to the older established branches at Pasadena, Pomona, Santa Monica and Long Beach, which all seem to be thriving, it is interesting to know that the Foot-hill Medical Society, which has had its headquarters at Monrovia, has practically completed arrangements to come in as an additional branch. This completes for the time the extent of our geographical branches, of which we will have five, with one section of specialists, namely, the Eye, Ear, Nose and Throat Section. The matter of sections in surgery, obstetrics and pathology has also been under consideration, as already noted.

4. Mal-Practice Defense. The efficiency of the State Society mal-practice defense, this year, as in the previous years, has been fully demonstrated, but the attention of members is, however, again drawn to the need of observance of the rules re-

garding this malpractice defense, as laid down on page 32 of the May, 1915, roster, in its relationship to having X-ray photographs taken in fracture cases, and in not filing suits for fees within one year from the date of last service.

*** 5. Our Telephone Exchange.** The comments which have appeared from time to time in the "Bulletin" concerning the work of the Telephone Exchange of our Society—which was established on November 20, 1913, practically only two years ago—should by this time have convinced our members of the phenomenal success of this venture.

When this Telephone Exchange was instituted, there were a large number of members who prophesied failure. The fact, however, that private commercial organizations had also seized upon this idea, and had been able to extract the sum of from \$15.00 to \$25.00 a year from members of the profession for such a service, was in itself a demonstration that such an exchange could be made to be of value to members of the medical profession. It would be absurd to think that members of the medical profession, who are notoriously reluctant to separate themselves from their money in an affair of this kind, would willingly give up \$25.00 a year unless some kind of a compensatory return had been in evidence.

The first month's work of our Exchange, in December, 1913, gave a total of only 285 calls handled. Contrast this now with the total number of calls for last month, namely, November, 1915 (the twenty-fourth month of the Exchange's existence), when there was a grand total of 4,976 calls, or an increase of 1646 per cent. in two years, and one can appreciate that this Telephone Exchange of the Los Angeles County Medical Association must have truly met a need and is doing a real service for many of its members, or such a phenomenal and extraordinary increase of the amount of work could not have come into being.

The thanks of the Association are due the operators who have so efficiently striven to carry out the objects of the Exchange.

Suggestions, of course, for the betterment of the Exchange are always cordially welcomed, and it is hoped that if at any time members can suggest changes in modes of operation, etc., for the betterment of the service, that they will not only feel free to do so, but that they will consider it an obligation which they owe to their Society and colleagues to notify the Secretary of such possible improvements.

A summary of the work of the Exchange is appended hereto, showing the total number of calls handled month by month in the twenty-four months of the Exchange's existence; and from this it will be seen that the increase in the amount of work handled has been gradual and steady, and that the figures therefore must be construed as an evidence of the increasing hold which the Exchange is making for itself, both with the members of our profession and with their clients.

Report for the Second Year—Los Angeles County Medical Telephone Exchange.

November 20, 1914, to November 20, 1915.

Month	Total No. Calls	Total Increase	Grand Total through Month
13th month, November 20th to 30th, 1914	285		
14th month, December, 1914.....	3,027	408	3,901
15th month, January, 1915.....	3,056	29	6,957
16th month, February, 1915.....	3,261	205	10,218
17th month, March, 1915.....	3,532	271	13,750
18th month, April, 1915.....	3,358		17,108
19th month, May, 1915.....	4,181	823	21,289
20th month, June, 1915.....	4,015		25,304

21st month, July, 1915.....	4,394	379	29,698
22nd month, August, 1915....	4,367		34,065
23rd month, September, 1915..	4,446	79	38,511
24th month, October, 1915....	5,040	594	43,551
25th month, November 1st to			
20th, 1915.....	3,356		46,907
Summary: Grand total of all calls handled for the second year was 46,907.			
Summary of calls for the 1st year.....15,276			
Summary of calls for the 2nd year.....46,907			

Grand total of calls.....62,183

6. **Bulletin.** Our little bulletins, which have gone out every two weeks with the programs of the meetings, have been a means of placing matters of Society and professional interest before the members. News items, and suggestions on topics which might be of interest or value to the members, and which could appear in this Bulletin, are always welcomed.

7. **In Conclusion.** Our Association remains, as has been the case for the last several years, the largest county medical unit in the State of California, and the gradual net increase of membership which is chronicled each year, leads us to believe that this first place as the largest county unit of the Medical Society of the State of California, is not apt to be imperiled in the near future.

Coupled with this distinction of being the largest county medical unit in California, goes the obligation, of course, of being one of the most active and best in every way of all county medical units, not only in the State of California, but of other county medical societies of similar size throughout the United States.

To accomplish this, fellow members of the Association, we assure you is the aim of those of your colleagues whom you have honored from time to time by election to the Board of Councilors; and we can affirm to you that the efforts of those colleagues, acting as your Executive Board, or Council, have at all times been efforts that have kept constantly in mind the interest of all of you, not only as individual members of the profession, but also from the interests of the Society as a whole.

It has not always been easy for the members of the Board of Councilors to drop their personal affairs in order to be at the business meetings of the Council, acting as the administrative board of the Association, but they have done this willingly; and we believe from an observance of their conduct, that in no single instance can any one ever claim that these men have not acted with the broadest possible viewpoint, and always with the highest conception of obligation in the interest of their individual fellows and of the Society as a whole.

We append this notation here, because the work of the Council is so quietly done that there may be some who see in the position of Councilor only an honorary position. It is far more than that, and no member should ever aspire to or assume these obligations unless intending in good faith to live up to them.

For the cooperation of the many individual members of the Association, who in non-official capacities have responded at different times throughout the year, when they have been called upon to do service for the Association, we wish at this time to express our appreciation.

Your Secretary-Treasurer desires also to thank you all for your cooperation and patience.

Respectfully submitted,

GEORGE H. KRESS,
Secretary-Treasurer.



DR. ROSE TALBOTT BULLARD.

After an illness of only one week, Dr. Rose Talbott Bullard of Los Angeles died December 22d from septicemia. Dr. Bullard was born in Birmingham, Iowa, April 16, 1864. She was the daughter of a physician, Joseph Talbott, who like his daughter died suddenly while engaged in the activities of his profession. Dr. Bullard graduated from the Woman's Hospital Medical College of Chicago in 1886, and was the valedictorian of her class. The same year she came to Los Angeles and engaged in the active practice of medicine, which she continued until the time of her death, save for the time spent in studying and taking special courses here and abroad. Dr. Bullard specialized in gynecology and surgery. She was a member of the Los Angeles County Medical Association (being its Secretary five years and its President one year), the Southern California, State Medical, and the American Medical Association. She was also a member of the Alpha Epsilon Iota Fraternity, one year being its national presiding officer. In 1914 she was elected a Fellow of the American College of Surgeons. For several years she was Instructor in Clinical Gynecology in the College of Medicine of the State University at Los Angeles, and for ten years conducted the Department of Gynecology and Surgery in the Southern California Practitioner. She was a member of the Friday Morning Club, and a member of the Board of Managers of the Young Women's Christian Association of Los Angeles; she also belonged to

the First Congregational Church. On May 3, 1888, she married Dr. Frank D. Bullard, with whom she has been associated in practice since that time. They have one daughter, Helen.

Dr. Bullard was fitted by training and temperament for her chosen work. A close observer, endowed with good judgment, she was painstaking and gentle in her work, possessing the confidence of her patients, the respect of the profession, and the love of every one who knew her. Though quiet in word and action, she possessed the courage of her convictions and the initiative to independently carry out her decisions. The medical profession, and more especially the women physicians of California, have met with a genuine loss in the death of Dr. Rose Bullard.

DR. G. I. CASON.

Dr. G. I. Cason, a pioneer practitioner of Colusa County, following an attack of paralysis from which he suffered on January 15th, died on the evening of January 17th at the family home in Sixth street, Colusa. His wife and sister, Mrs. J. F. Ellison, were with him when the end came.

Dr. Cason was one of the best known men in Colusa County, and popular with a wide circle of friends who were shocked and grieved at his sudden death.

Dr. Cason came to California in 1877, and had been a resident of this state, most of the time living in Red Bluff, except for three years when he was practicing in Oregon.

TO TELL RECENT VICTORIES IN WAR ON TROPICAL DISEASES.

The achievements which science is scoring in the great war against the tropical diseases are to be described in a series of public lectures by members of the faculty of the University of California Medical School at 10 o'clock on Saturday mornings beginning Saturday, January 15, at the University of California Hospital, on Second and Parnassus avenues, San Francisco.

Since the white man's opportunity to live and work in the tropics is dependent upon control of the tropical diseases, tropical medicine is regarded by the University as of particular importance to California and to San Francisco, because of the increasing commercial relations between California and tropical countries.

The lectures at ten o'clock every Saturday morning from January 15 to April 22, in the amphitheatre of the University Hospital, will be followed at eleven o'clock by clinical demonstrations, the discussion of clinical histories, and demonstrations of specimens and pictures.

The lectures (from and after March 1) all open to the public, will be as follows:

March 4—Dr. H. F. Nichols, "Spirochaetiasis."

March 11—Dr. Billings, "The More Important Helminthiasis."

March 18—Dr. K. F. Meyer, "Yellow Fever, Dengue, and Pappataci."

March 25—Dr. K. F. Meyer, "Typhus, Spotted Fever and Verruga Peruviana."

April 1—Dr. Howard Morrow, Clinical Professor of Dermatology, "Leprosy and Tropical Skin Diseases."

April 8—Dr. Billings, "Beriberi and Pellagra," with demonstrations.

April 15—Dr. E. L. Walker, "Parasitic Insects and the Role of Insects in the Transmission of Tropical Diseases."

April 22—Dr. K. F. Meyer, "Tropical Hygiene and Sanitation—Summary of the Present-day Achievements."

SAFETY FIRST.

As a further step to safeguard the life of passengers from accident, Western railroads from the first of February will prohibit the carrying of motion picture films in passenger cars. The celluloid of which the films are made is a highly combustible substance, and the railroads fear that a chance contact with fire might end in disaster.

This action follows that already taken by railroads of the country located in the East and Middle West. A passenger on a suburban train running out of Chicago recently carried into the combination smoking and baggage car four reels of motion picture films and placed it on the floor between the seats. In some way, presumably by a lighted match dropped by a smoker, the films were set off and an explosion occurred in which 38 persons were badly burned, two fatally. As a result railroads are no longer willing to submit their customers to such a hazard.

When films are sent by express, they can be inspected when received for shipment, and carried in the safe manner laid down by the packing rules of the Interstate Commerce Commission.

This ruling has been recommended by the American Railway Association, the Bureau for Safe Transportation of Explosives.

AMERICAN FIRST AID CONFERENCE.

As Secretary of the American First Aid Conference I would appreciate very much if you would publish a short abstract of my article "First Aid to the Injured," which appeared in the January number of *Surgery, Gynecology and Obstetrics* (page 21). See also "The Military Surgeon," January 16, page 44.

In this article I discuss the methods of survey with suggestions to the Special First Aid Committee of your State Medical Association which, I trust, has been appointed.

At the last meeting of the National Board of First Aid Standardization in Washington, a resolution was passed requesting these committees to make their report to the Secretary of the American First Aid Conference, who will forward such reports to the Board of Standardization. The Board of Standardization recently appointed by the President of the United States is as follows:

Dr. Richard H. Harte, Philadelphia, chairman, representing the American Surgical Association; Assistant Surgeon-General W. C. Rucker, secretary, representing the U. S. Public Health Service; Dr. J. Shelton Horsely, Richmond, Va., representing the American Medical Association (surgical secretary); Dr. Samuel C. Plummer, Chicago, Ill., representing the American Association of Railway Surgeons; Dr. John P. Kaster, Topeka, Kansas, representing the Association of Railway Chief Surgeons; Major Robert U. Patterson, Medical Corps, U. S. A., representing the War Department and the American Red Cross; Surgeon A. M. Fauntleroy, U. S. Naval Medical School, representing the Navy Department; Colonel Louis A. LaGarde, U. S. A., retired, representing the War Department.

I plan from time to time to send your Journal items of interest in regard to the first aid survey, and I hope to stimulate among the profession in your State the writing of some special articles on first aid, which I trust you will publish in your Journal.

I would appreciate a copy of your Journal in which items of interest on first aid are published.

Very sincerely yours,

JOSEPH C. BLOODGOOD,
Secretary A. F. A. C.

THE FEBRUARY MEETING OF THE STATE BOARD OF HEALTH.

The State Board of Health met in Sacramento on February 5th. There were present: Dr. George E. Ebright, President; Dr. F. F. Gundrum, Vice-President; Dr. Robert A. Peers, Dr. Adelaide Brown and Dr. Edward F. Glaser.

Specimens Improperly Packed.

It having been called to the attention of the Board that many specimens sent by physicians to the laboratories are improperly packed and in direct violation of the postal regulations, the Board referred the matter to the Attorney, who will frame a letter to be sent to all physicians in the State, warning them against infringement of the United States postal laws in this matter and calling attention to the great danger of the transfer of infection.

Sewage Disposal Permit Granted to Reedley.

In accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, a permit was granted to the city of Reedley to discharge sewage into the Kings River, provided:

1. That a modern sprinkling filter be constructed as outlined in the report.
2. That at a river stage of three feet or less (flow not less than 10,000 feet) no sewage be permitted to enter the river direct without additional treatment to completely sterilize it.

Sewage Disposal Permit Granted to Riverside.

A permit was granted to the city of Riverside, in accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, to discharge its sewage on to a tract of land approximately five hundred acres in the vicinity of the confluence of the old and new channels of the Santa Ana River.

Sewage Disposal Permits Granted to the Cities of El Centro and Imperial.

In accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, a permit was granted to the cities of El Centro and Imperial to discharge clarified sewage into New River.

Subsidy Granted Los Angeles County.

In accordance with the recommendations of the Director of the Bureau of Tuberculosis, the new thirty-bed pavilion at Los Angeles, having been inspected and found to fulfil the requirements of the Bureau of Tuberculosis of the State Board of Health, was placed on the eligible list to receive the subsidy.

Subsidy Granted San Joaquin County.

In accordance with the recommendations of the Director of the Bureau of Tuberculosis, the San Joaquin County Hospital, having been inspected and found to fulfil the requirements of the Bureau of Tuberculosis of the State Board of Health, was also placed on the eligible list to receive the subsidy.

Hospitals Reaccredited.

In accordance with the recommendation of the Director of the Bureau of Registration of Nurses, the following hospitals, having been inspected and found to be continuing to meet the requirements of this Board, were reaccredited for one year from date, February 5, 1916: University of California Hospital, San Francisco; St. Joseph's Hospital, San Diego; Cottage Hospital, Santa Barbara.

Hospitals Accredited.

In accordance with the recommendations of the Director of the Bureau of Registration of Nurses, the Children's Hospital, Los Angeles, having complied with the special recommendation of the Board of December 8, 1915, arranging for the proper affiliation with another accredited school, and now meeting with the requirements of the

Board, was accredited for one year from date, February 5, 1916.

Certificates as Registered Nurse Granted.

In accordance with the recommendation of the Director of the Bureau of Registration of Nurses, the following applicants, having met the requirements of the law under Chapter 319, Section 8, and the rules and regulations of this Board, were granted certificates as registered nurses: Viggo M. Toppenbert, No. 5158; Pearl Hammons, No. 5252.

Report of Rabies Conference.

Dr. F. F. Gundrum, Vice-President, presented a summary of his report on the conference on rabies, held at Salt Lake City, February 1, 1916, as follows:

"The Vice-President left Sacramento for Salt Lake City to attend the Surgeon-General's Conference, at 8 p. m. Tuesday, February 1. The following organizations were represented at the Conference: United States Public Health Service, Forestry Service, Biological Survey, Bureau of Animal Industry, the District of Columbia, Kansas, Montana, Wyoming, Idaho, Utah, Washington, Oregon, Nevada, and California. Each organization had one vote in the conference.

"Doctor Kerr appointed a committee on resolutions consisting of Doctor Woodward, District of Columbia, chairman; Doctor Fricks, United States Public Health Service; Dr. T. B. Beatty, Utah; Doctor Tuttle, Washington, and Dr. F. F. Gundrum, California.

"Rabies was first discussed and it developed that this disease is quite prevalent in California, Washington, Oregon and Kansas. Doctor Fisher, Chief of the Biological Survey, announced that a bill appropriating \$75,000 had been passed by both Senate and House as an emergency fund for the Biological Survey in the extermination of coyotes in the west.

"Other matters considered were Rocky Mountain Fever, the question of indigent tuberculous who have migrated from one state to another, and the discussion of the sanitation of railway coaches, Pullman cars in particular."

Foods and Drugs.

The Board then considered violations of the food and drug laws, and held the hearings set for eighty-five alleged violations. The disposition of each case was determined by a vote of the Board.

WILBUR A. SAWYER, M. D.,
Secretary.

NEW MEMBERS.

Wintermute, Chas. E., Saratoga, Cal.
Reamer, E. F., Modesto, Calif.
Purkitt, T. T., Willows.
Crawford, Jas. P., San Quentin.
Newton, Le Roy A., Los Angeles.
Hibben, J. Severy, Pasadena.
Emmons, Calvert L., Ontario, Cal.
Miyata, Yujiro, Los Angeles.
Swearingen, F. C., Los Angeles.
Grubbs, T. Elmer, Los Angeles.

DEATHS.

Atkinson, H. H., Harpoot, Turkey.
Brownlee, Geo. D., Died in Mokelumne Hill, Cal.
Cason, George I., Colusa, Cal.
Sanborn, Franklin H., Fort Bragg.
Biehl, P. T. C., Berkeley.
Steele, Chas. H., (Died in Detroit, Mich.)
Beyer, Herman, Oceano, Calif.
Mansfield, Lois Fitch, Santa Barbara.
Wells, E. W., Eureka, Calif.
Johnson, Wm. M., Redlands, Calif.

RESIGNED.

Watson, H. G., Los Angeles.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Fayette W. Birtch, M. D.

René Bine, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Berling, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - - -

State Journal, - - -

Official Register, - - -

Butler Building,
San Francisco.

Telephone Douglas 2537

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV

APRIL, 1916

No. 4

EDITORIAL NOTES

FRESNO MEETING, APRIL 18, 19, 20.

Railroad rates. Pay your full fare going and get a receipt-certificate from the ticket agent. Have this signed by the Secretary at Fresno and present it to the ticket agent at Fresno when you are leaving; he will issue you a return ticket for one-third fare. Round trip, therefore, is one and one-third the regular fare.

Rooms: Write to Dr. Kenneth J. Staniford, Fresno, stating what accommodations you want, and ask him to make the reservation.

Entertainment. A very attractive program of entertainments has been arranged by the local committee, and it may safely be said that those who attend this meeting will remember it for many a long day.

DO NOT FORGET to ask for and receive a receipt-certificate when you buy your going ticket. Failure to do so cannot be rectified.

"FRESNO"

1916

Dear Doctor:—

Wishing to make this session of the State Society one of the most successful and enjoyable meetings ever held, we make this personal appeal to every reputable physician in the state to meet with us in April. With Fresno as the geographical center of the state, easily accessible from all points, by both rail and auto, and a program which will be both profitable and enjoyable, we can promise you a full return on your investment of time and expenditure.

Why not leave your work and cares for a day or two, relax and come to the "Raisin Center" where sunshine, good cheer and a cordial welcome will await you? Come and join with us for your own profit and the success of the meeting. Come.

Cordially yours,

FRESNO COUNTY MEDICAL SOCIETY.

MEDICAL DEFENSE AND INSURANCE COMPANIES.

In spite of numerous items in the JOURNAL explaining, as was thought, carefully and clearly the attitude of the State Society in the case of a member who holds indemnity insurance and is sued, the situation seems to be vague in some minds, as will appear from a communication from Orange County, which see elsewhere. In the first place, the State Society's legal department is on the friendliest terms with all the insurance companies and we work together when circumstances warrant it. No member need take out insurance unless he fears that some time or other a judgment by a jury may be given against him, or he may be grossly careless and create a situation which will require him to compromise by a money payment. The State Society will fight all suits against members and pay all court costs, if they have no insurance; if they have insurance, the member may choose whether the State Society shall protect him or whether the insurance company shall do it, and if he elects to have the insurance company appear for him, and if we think that their attorney has not enough experience in this work to do it right, our own attorneys will assist in the case. Nine times out of ten—or more—it is not at all necessary for more than one attorney to spend time on a case; in the early stages, it is never necessary. If the holder of indemnity insurance does not notify the company immediately he is threatened or sued, he violates a clause in his policy, thereby cancelling the policy, and the money he has paid for premiums is thrown away. A number of members who have insurance and have been sued, seem to have had the idea that many attorneys would be more protection to them than one or two; in one instance a member wanted five! This is not the case; it is not only unnecessary, but it has a bad effect on a jury to see so many lawyers on the side of the defense. In the matter of costs, it is but right that the company should do what it has undertaken and been paid to do—and so we let the company pay the costs. Is there anything peculiar about that? If we find that the attorney for the company is a good and competent attorney and is handling the case properly, we let him go ahead with it; is there anything peculiar or out of the way about that? If the company makes any bluff about not being liable for the defense, we tell them we will do it; is there anything peculiar about that? Is it common sense to have two or three people doing what one could do at least as well?

ORANGE COUNTY AND MEDICAL DEFENSE.

It seems strange that, of all sections in the State, a county in the south should take the attitude displayed in the following circular letter emanating from Orange County; the south, where most of our suits originate—the section that has kept the State Society poor for the last three years! The Orange County letter and the reply of the Secretary are published without comment except to say that 1915 closed with the largest membership the Society has ever known—2557.

ORANGE COUNTY MEDICAL ASSOCIATION.

Santa Ana, Cal., Feb. 15, 1916.

The following resolutions were adopted by the Orange County Medical Association at its February 15th meeting.

A few words of explanation may be necessary.

Our surgeons have found that the State protection is unsatisfactory and inadequate. First: The State does not pay court expenses and the court expenses may be heavy even if the defendant wins the suit. Second: If the judgment goes against the defendant the State does not liquidate the judgment.

These conditions force the surgeons to carry indemnity insurance. They feel that it is an unjust burden to compel them to carry the State insurance that can be of no use to them. Some of our internists feel that they do not need the protection at all.

It seems to us that only a limited few are benefited by the present defense system, and that the payment of that part of the dues devoted to the State defense fund should be made optional with the members, or if enforced that the State should afford us protection equal to that given by the protective associations.

Whereas, Membership in the State Medical Society is compulsory to those who desire membership in the American Medical Association and its component societies;

Whereas, The State society assesses each of its members four dollars per annum for a defense fund;

Whereas, The State society does not afford the protection equal to that given by the various medical protective associations, thereby driving many of its members to seek the protection of said associations;

Whereas, The State society has ruled not to associate itself with the defense companies, and that such a ruling appears unjust and will undoubtedly lessen the membership of the State society; therefore, be it

Resolved, That this association respectfully petition the House of Delegates either to make the four dollar annual fee, for the purpose of protection, optional with its members; to abolish the protective feature entirely, or raise the standard of protection given by the State so-

ciety until it equals that afforded by the protective associations.

JOHN L. DRYER,
CHAS. D. BAILL,
JOHN I. CLARK,
Committee.

February 24, 1916.

Dr. John L. Dryer,
Santa Ana, California.

Dear Doctor:

I have before me the resolutions adopted by the Orange County Medical Association at a meeting held on February 15th.

I am exceedingly sorry that your Committee did not look into this matter carefully, either by consulting this office or by consulting our attorney in Los Angeles, Mr. Morrow. Most of the statements made in your preamble and resolutions are not in accord with the facts, and, as you know, any such statement which contains matter generally known to be inaccurate is in its entirety looked upon with suspicion.

Specifically answering your letter, I will take the liberty of placing the facts in the case before you.

You say, first: "The State does not pay court expenses and the court expenses may be heavy even if the defendant wins the suit."

Where you could have received any such inaccurate information as this I have no idea, for the State Society has paid in every case all the expenses of suits, court costs, etc., except in such cases as an insurance company paid these expenses. If any member in good standing in similar circumstances has ever paid any of the expenses of a suit, it is unknown to this office.

Second: "If the judgment goes against the defendant the State does not liquidate the judgment."

This is about the only statement that is absolutely true. The State does not reimburse a member in the amount of a judgment if a case goes against him. This matter was carefully thrashed out in April, 1909, by the House of Delegates, and the alternate plans of merely defending, or of defending and paying judgments, were thoroughly discussed and the former adopted.

The general tone of the next two paragraphs of your letter would indicate that you thought only surgeons were made the object of this sort of persecution. This is not the case. Some of the worst suits we have had have been medical or obstetrical cases. Furthermore, you suggest that only a few have received the benefits of this work. Please allow me to call your attention to the fact that more than ten per cent. of the entire membership of the Society have either been sued or threatened with suits, which matters were handled by our legal department. Furthermore, a very large additional number of members have received intimations of possible future suits, which matters have also been handled and in most instances the situation straightened out.

Third: "The State Society assesses each of its members four dollars per annum for a defense fund."

The State Society does not assess its members \$4.00 for any particular purpose. There is no segregation of the assessment. The amount of the assessment is for all the activities of the Society.

Fourth: "The State Society does not afford the protection equal to that given by the various medical protective associations, thereby

driving many of its members to seek the protection of said associations."

This is a bald statement which you would find very difficult to substantiate. We have received any number of letters advising us that the legal work of the State Society was of the very highest and best class. We know this to be the case, and so even in actions defended by attorneys of insurance companies we watch the proceedings carefully to make sure that the insurance company's attorney is handling the case properly.

Fifth: "The State Society has ruled not to associate itself with the defense companies, and that such a ruling appears unjust and will undoubtedly lessen the membership of the State Society."

No such rule as this has ever been made. In fact, and to the contrary, the relations of our legal department with all the insurance companies are most friendly, and every case that arises is carefully scrutinized by our attorneys in consultation with the attorneys of the insurance company. The only rule in any way referring to this is intended to make the insurance company pay the expenses which it contracted to pay and thus relieve the Society of this additional burden. This rule has been entirely satisfactory to the insurance companies and it has saved us several thousand dollars. When we have reason to believe that the attorney retained by the insurance company is for any reason not handling the case properly, our attorneys become associated and in a number of instances have taken over the entire conduct of the case and have won the action.

Sixth: "Resolved, That this association respectfully petition the House of Delegates either to make the four dollar annual fee, for the purpose of protection, optional with its members; to abolish the protective feature entirely, or raise the standard of protection given by the State Society until it equals that afforded by the protective associations."

The various possible actions suggested in this paragraph are, of course, up to the House of Delegates, and whatever they determine will be carried out. The last portion of it, however, would be impossible to carry out, as neither the House of Delegates nor any individual or collection of individuals could raise the standard of protection given by the State Society.

There is one other point, not mentioned in your letter but frequently misunderstood, and that is a popular supposition that the State Society will not appeal cases. This error comes from a lack of knowledge of the law in the case. Incidentally, I may say that we now have three cases on appeal or in preparation for appeal. Only certain cases can be appealed owing to a well-established attitude of the Courts of Appeal of this State. They will not under any circumstances review the verdict of a jury unless it be made clearly evident that in the course of the trial there have been errors of law prejudicial to the party against whom the verdict was rendered. You can see from this that if the record is clear, if prejudicial errors of law have not intruded during the trial, it is useless to appeal for the Court will not listen to the case nor will it be permitted to be presented.

All of these matters you would quite easily have obtained from this office or from Mr. Morrow in Los Angeles, and I deeply regret that you did not communicate with him before making the report of your Committee.

Cordially yours,

PHILIP MILLS JONES,

Secretary.

PMJ:S

MEMBERSHIP.

The question of the status of a delinquent member of a county society and his relation to the State Society in delinquency and if he pays up, is a matter that frequently comes to our attention. It was raised recently by a Councillor, and the letter sent him in reply covers the case so fully that it is here printed:

February 23, 1916.

Dr. Jas. H. Parkinson,
1005 K St., Sacramento.

Dear Doctor:

Answering your letter of the 21st, under the By-Laws of the State Society, the name of any physician who has not been reported and paid for before March 1st, but who may have been on our rolls the previous year, is dropped as of the first of the current year. He is not a delinquent member; **he ceases to be a member**, and he remains not a member until such time as a County Society reports his name as a member of that County Society and remits his assessment.

If he is dropped or suspended from a County Society for one or two years, it is a matter of business indifference to us, because he simply is not on our rolls as a member; and if he subsequently pays up in his County Society, he becomes a member of this Society only from the date when he is last reported and the assessment of the current year paid. There is no possible way in which we can re-instate him as to membership in a previous year.

Under our rules, a member to receive the benefit of medical defense, must have been a member in good standing at the time when the alleged malpractice occurred and also at the time when the suit was filed. In the case you cite, if one who was suspended for non-payment of dues during the whole of 1915, but who has now paid to your Society this amount and the dues for 1916, should be sued for an act occurring during 1915, he is without the provisions of our medical defense and consequently not entitled to its benefits. The date of the alleged cause of action is as important as the date of the filing of the complaint, and both dates must be within the times at which the individual was a member, fully paid up and in good standing.

Cordially yours,

PHILIP MILLS JONES,

PMJ:S

Secretary.

ACCOUNTS.

In this number of the JOURNAL will be found the report of the auditors covering the year 1915. It shows some small gain over the previous year, but not much; the excessive cost of some suits for damages for alleged malpractice in 1913 and 1914 piled up a heavy burden to carry. However, our credit is good and we have no trouble in borrowing some money toward the end of the year, to tide us over. If you examine the statement, you will see that the bank paid us more money in interest on our balance during the early part of the year, than we paid them for the loan of \$1,500 at the end of the year. The accounts have been put

in charge of a clerk, and a new system of accounting for subscriptions has been started. Also, the reporting of members is no longer accepted on prescription blanks, the back of an envelope, etc. All names must be reported on the pink sheets supplied to secretaries, and when names are not so reported the report is sent back to be properly made. There are now three clerks working in your office, and they are busy all the time. Everything relating to money goes through at least three hands and thus a safeguard is placed upon all of us. About two-thirds of the Secretary's time is taken up with the legal work; suits and threats continue to increase. Not only are the accounts audited each year, but also, for the last two or three years, members of the Council have gone personally to the auditors and have discussed with them the condition of the office, methods of accounting, system, etc. If it were not for the burden of medical defense, the Society would be in excellent financial condition; but if the Society did not do it, it would cost the individual members a great deal more than we are now paying.

CO-OPERATION WITH INSURANCE COMPANY.

Speaking of "lack of co-operation with the insurance companies," the following letter is rather interesting. It is from a member who holds insurance and who was sued. We thought it safer, for certain reasons, not to leave the defense of the suit to the attorney for the insurance company, and so our own legal department took charge of the trial of the suit. To be sure, we let the insurance company pay the court costs, etc., and their attorney was associated in the action; but our attorney did all the actual work of the trial. Incidentally, it cost the Society about \$275, and under the rules, we were not called upon to do anything.

February 15, 1916.

State Medical Society,
San Francisco, Cal.

Dear Sirs:

It gives me great pleasure to acknowledge my gratitude to the Society for their co-operation and efforts in my behalf in the recent damage suit against me which has ended so pleasantly for us.

Mr. ——— has extended every courtesy in the matter, and together with Mr. ——— of the ——— Company, they have left nothing undone, and the results must be very gratifying to them as they are to me. It is a great comfort to all of us to feel that the Society is back of us. And the fact that so few judgments are rendered against the physician, should prove to the public that they are black-mailing schemes on the part of grafters to obtain money in an easy way. I wish something could be done to protect us from such attacks, and I feel that we should be able to get a bill through compelling these people to put up a bond for at least \$1000.00 before beginning a suit of this kind. I don't think there would be many suits.

Thanking you again, I am,

Very sincerely and fraternally yours,

CURIOUS, TO SAY THE LEAST!

The *Southern California Practitioner*, in its issue for February, 1916, for some reason or other, prints a few things that are more or less direct slams at the State Society; more of them later. It also prints on the front cover the following announcement, in large type:

"Our advertisers are worthy of your support, and if you do not patronize them, you are not rendering the best service to your patients."

Here are some of the advertisements that are said, by that powerful aid and guide to the medical profession, the *Southern California Practitioner*, to be worthy of your support and without using which you are not practicing medicine properly:

Gray's glycerine tonic; Angier's emulsion; Anti-phlogistine; Glycophymoline; Sal hepatica; Ergo-apiol; Kutnow's powder; Hayden's viburnum compound; Hagee's ext. ol. morrhuae comp.; for information in regard to these "worthy" remedies, see their exposes in various issues of the *Journal A. M. A.*

And the same journal that recommends these proprietary medicines that have been shown up by the Council on Pharmacy and Chemistry, has the nerve to (1) ask for life subscriptions to itself for the purpose of paying for the defense of a suit brought by the government against it because it published a wholly nasty and uncalled for article; (2) slams the medical defense of the State Society and suggests that it be done away with—which, incidentally, would be profitable for the State Society; (3) slams the State Society for trying to make a fair agreement and come to a friendly understanding with the insurance companies doing industrial accident work; for trying to do just what the American Medical Association is now trying to do, come into friendly relations with those who are active in putting forth new legislation that is rapidly approaching State medicine, rather than to oppose, most hopelessly, the movement and so make more trouble.

Truly, when all is considered, the *Southern California Practitioner* is a good and holy guide to have—if you feel crooked tendencies—and from its contents it is fair to presume that any one of its statements is as true as any other. Look up some of the frauds advertised.

AUTOMOBOLISTS ATTENTION!

TO FRESNO BY AUTOMOBILE.

The Touring Bureau of the California State Automobile Association has furnished the following information which will undoubtedly be of great assistance to those contemplating such a trip:

Transbay motorists will of course follow the State Highway from Oakland. Those crossing from San Francisco will take the Creek route ferry, landing at the foot of Broadway in Oakland. Proceed out Broadway to Twelfth street, turn right on Twelfth and continue to Thirteenth avenue; turn left on Thirteenth avenue and continue one block to East Fourteenth street; continue out East Fourteenth street to Twenty-third avenue; turn left on to Twenty-third avenue and continue to Foothill Boulevard; turn right on to Foothill Boulevard and continue to just in the edge of the town of Hayward. This stretch is all macadam road. Turn left at sign "To Dublin," and continue over the Dublin Boulevard to Santa Rita, 12.5 miles of excellent paved State Highway. The main road between Santa Rita and Livermore is under highway construction, necessitating a detour via Pleasanton. Turn right at Santa Rita, and continue over a splendid gravel road to Pleasanton, thence to Livermore.

Leaving Livermore via State Highway our party will proceed through the Altamont Pass, which is a winding road passing between rolling hills and with no grades to exceed 5%. This portion of the route is all paved with the exception of a short stretch which has been graded for the State Highway, and in good condition. From the pass the route lies through level, green fields to Tracy, Banta and to the junction of the roads at the Mossdale school, where the right hand fork is taken to Manteca, thence south over smooth State Highway through Ripon, Salida to Modesto. The distance between San Francisco and Modesto is 85.1 miles. Proceeding south from Modesto our party will bowl along over roads as smooth as a table, through the towns of Ceres, Keyes, Turlock, Livingston, Atwater, to Merced, a distance of 38.5 miles from Modesto; thence continuing south through Athlone, Minturn, Chowchilla, Califa, Berenda, Madera, Herndon to Fresno, a distance of 176 miles from Oakland.

Parties motoring from those sections around Salinas will proceed to San Juan or Gilroy, thence over the Pacheco Pass road to Madera. This route is as follows: East from Gilroy over Pacheco Pass with grades from 10% to 14% to Los Banos, a distance of 50.7 miles, thence southeasterly to South Dos Palos taking new road to Firebaugh, thence to Madera, where State Highway is encountered and balance of trip as above. The entire stretch from Gilroy is a dirt road but in fair condition.

Those making the trip from Southern California will have equally as good roads and just as beautiful scenery.

This route is as follows:

Leaving Los Angeles from the Automobile Club at 1344 South Figueroa street go north on Figueroa street to Second street, turn left at this point and go two blocks to Beaudry avenue. Turning to the right here continue to Sunset Boulevard, thence follow same to Hollywood, all paved. Arriving at Cahuenga avenue, in Hollywood, follow signs over Cahuenga Pass. Arriving at the foot of the Pass on the northern side, take the right hand road at the junction of the Lankershim, San Fernando and Ventura State Highway and follow through Lankershim to the San Fernando Boulevard, thence through San Fernando, Newhall and Saugus. Swinging left around the garage just at the northern end of Saugus, a small detour is necessary, thence back to pavement and continue 2½ miles, then it is necessary to follow temporary signs through Castiac Station to the Castiac Creek where pontoon bridge will be found over the creek. This bridge should be taken very slowly. Continuing along the Castiac Valley to the entrance of the Ridge Route over fair dirt road. No grades over 8% will be encountered on the Ridge road. Extreme care should be used at all turns as it is impossible to see a car coming from another direction. Arriving at the northern end of the Ridge Route, some 71 miles from Los Angeles, pavement is encountered and will be followed past Crane Lake and Bailey's Ranch to the Kern County Line. From here on excellent dirt road is encountered over Tejon and Grape Vine Grades to the foot of Grape Vine Grade on the northern side. Here our party again finds pavement to Bakersfield, some 32.5 miles. North of Bakersfield, pavement is had through Famosa and Delano to the Tulare County Line, thence over good dirt road through Tipton, Tulare to Visalia and Goshen. State Highway is now completed from Goshen to Fresno.

MEDICAL DEFENSE

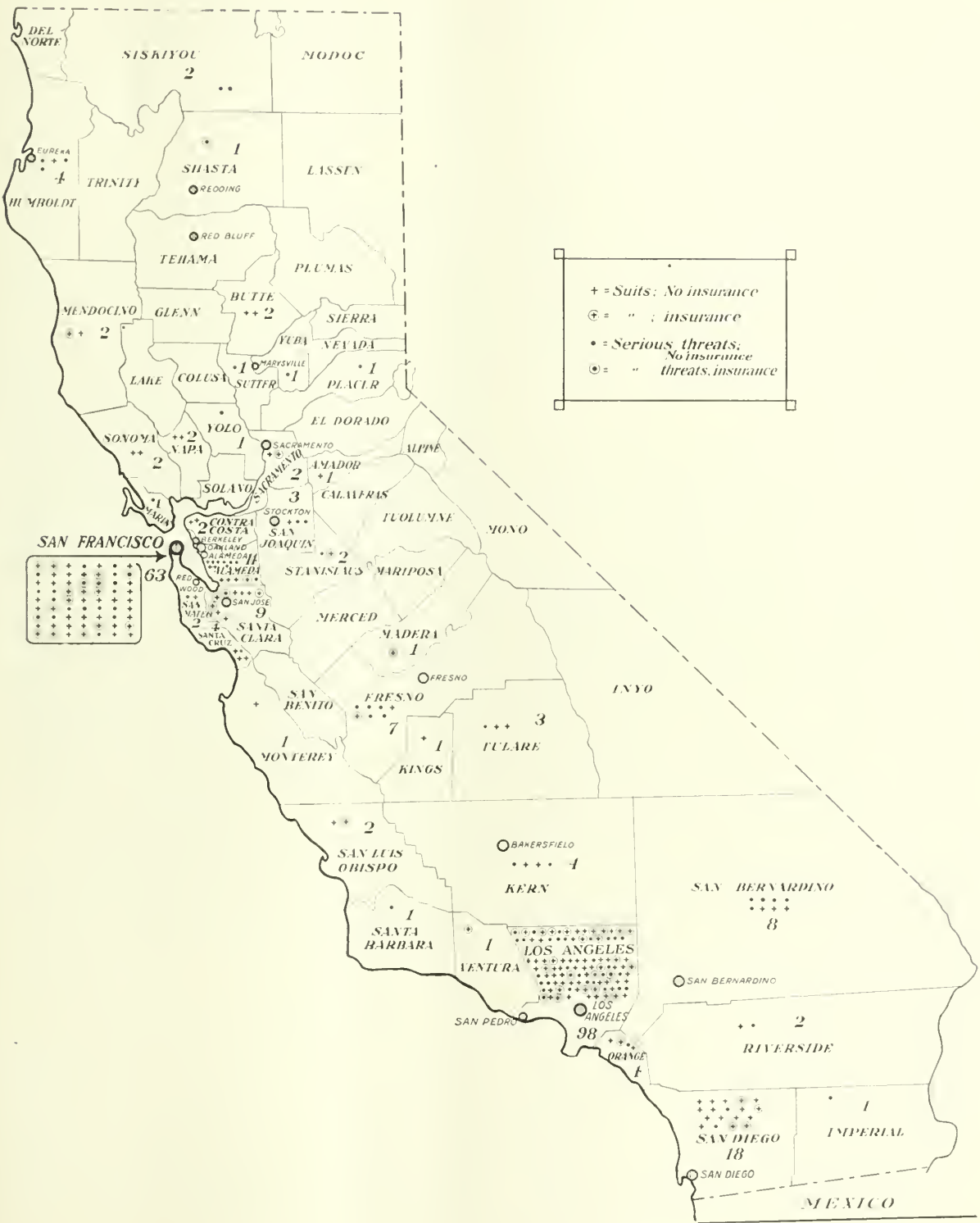
The map shows the location of all suits filed and gives an explanation of the marks in the counties.

There have been three (3) judgments against members in seven (7) years.

The total amount of these judgments was \$3,960.00.

The cost of the work for the first	
five (5) years was.....	\$13,323.07
for the last two (2) years.....	16,157.04

Total	\$29,480.11
-------------	-------------



REPORT OF CASES OF MALIGNANT TESTICLE.*

By W. P. WILLARD, M. D., San Francisco.

In presenting these few cases of cancer of the testicle, I am doing so with the idea of showing the different courses taken by them after operation, and the ideas of different surgeons as to what is considered proper treatment.

The classification of these tumors is still open for debate. Ewing thinks that practically all malignant tumors of the testicle originate from pre-existing teratoma. The tumors in which no teratomatous elements are found are those in which these elements have been destroyed by the advancing carcinoma. The examination in regard to prognosis may be an advantage, as shown by a histological examination of Chevassu's 100 cases:

Forty-seven cases are described as "epithelioma seminal" or "semenoma." Of these 16 were well from 4 to 10 years.

Fifty cases as "mixed tumors." Of these 3 were cured.

Three cases as "sarcoma." All died.

Of course the interpretation of the cellular arrangements by different pathologists will vary, but it seems that a classification like that of Chevassu would be of some assistance.

The prognosis of this condition is far from good, and after reading the reports of a large number of cases one gains very little confidence. The report of 77 cases followed by Kober shows that 41 died within the first three years; 23 of these within five months of metastases and 11 others within a year. Two died of recurrence after three years. Codman in the report of 56 operated cases that had been traced, shows 13 living at an average time of eight years after operation. Twelve died of other causes. Chevassu reports 19 living after four years out of 100 cases.

The duration of the disease is variable and the time factor is not absolutely reliable in regard to the extent of the disease. Although the growth as a rule is very malignant, especially in undescended testes, cases of 20 and 22 years' duration have been reported. Hinman in his collection of cases found the duration of the disease before operation from two months to 12 years.

My first case was a man 26 whose previous and family history are unimportant. No history of trauma or venereal diseases. He first noticed an enlargement of the left testicle in July, 1914, at which time he was in Paris. He consulted a physician who advised orchidectomy.

I saw the patient two months later, at which time the left testicle was about three times its normal size, regular, not tender, and non-adherent. Vas and cord normal on palpation. Operation consisted of the removal of the testicle and tunica albuginea, and the cord as high as the internal ring. The wound healed in a few days and the patient felt well until January, when he complained of some tenderness on the left side of the abdomen. At this time a well marked tumor could be felt in the left lower quadrant. The

patient is still alive but bedridden for the last few weeks.

The pathological report by Dr. J. V. Cooke is as follows:

S.14.325. Specimen consists of an egg-shaped mass measuring 9.5x6.5x5.5 cm. It has the general shape of a testicle and is invested by a fibrous capsule, apparently the tunica. The serous surfaces of the tunica are for the most part smooth and glistening, but there are some fibrous adhesions in the region of the epididymis. The globus minor is enlarged and firm. It measures 6x3x2 cm. The testicle is pale and the consistency firm. On section the testicle and the enlarged globus minor are similar in appearance and there is no line of demarcation between them. The cut surfaces show a pale gray, somewhat translucent tissue in which there are scattered irregular, opaque yellowish gray foci of necrosis from 3 to 10 mm. in diameter. Fine translucent grayish bands of fibrous tissue traverse the tumor dividing it into small alveoli. The cord does not appear to be invaded by the growth.

Microscopic Examination. Sections are made from several portions of the growth and all these show the same picture. The tumor is composed of irregular round or hexagonal cells which have large oval, vesicular nuclei. The protoplasm of the cells, for the most part, is not seen, the nucleus being surrounded at a slight distance by a halo-like rim which apparently makes the boundary of the cell. Occasionally, however, the protoplasm has a finely granular appearance but in most of the cells the protoplasm has been apparently dissolved away. The tumor is arranged in alveolar masses separated by strands of fibrous tissue. In the alveoli, however, there is only an occasional thin strand of connective tissue running down from the fibrous septum. No definite mitotic figures are found. Here and there through the sections there are irregular areas of pink-staining necrosis. The blood vessels which have well-formed walls runs in the fibrous septa and there is also a moderate lymphocytic infiltration of the connective tissue. Section through the periphery of the tumor shows a fibrous encapsulation.

Microscopic Diagnosis. Epithelial testicular tumor probably of teratomatous origin.

The second patient was seen with Dr. A. J. Sanderson. He was 20 years of age with no history of trauma or venereal disease. The testicle was noticed slightly enlarged in July, 1912, and gradually increased in size until January, 1913, when I saw him. The tumor was about four times the size of a normal testicle. The scrotal veins were prominent, the cord was normal in size and the scrotum freely movable.

Dr. Sanderson removed the testicle and tunica albuginea and the cord within the inguinal canal. He reports that there was no further evidence of trouble for about a year, when a nodular growth was noticed at the end of the severed cord. This was removed together with the cord well above the internal ring and the tissue surrounding. This area was drained for three weeks after which an inguinal gland became prominent. This has been watched for some time and is getting smaller. He has given the patient some X-ray treatment over this region. Pathological report by Dr. J. V. Cooke:

S.13.24. Specimen consists of an irregular globular mass measuring 6x6.5x7.5 cm. The surface is smooth and apparently composed of tunica albuginea. At one portion there is seen what appears to be the epididymis and stump of the spermatic cord, measuring 3 cm. in length. On section the cut surface shows an irregular division

* Read before the San Francisco County Medical Society, August 31, 1915.

into alveoli by fibrous septa. The tissue in these alveoli is composed of granular, gray tissue which crumbles, to a certain extent, as the tissue is cut. This material, evidently composed of the tumor cells, is apparently joined together very loosely by fibrous tissue. Beneath the region of the epididymis there is a compressed rather uniform tissue which may be the testicular tissue. This is surrounded by fibrous tissue and is not invaded by the near-by tumor. The tumor mass is encapsulated everywhere by fibrous tissue. The portion of the cord shows no evidence of invasion of the tumor.

Microscopic Examination. Sections taken through several portions of the tumor show the same picture. There is an irregular division of the tumor cells into aveolar masses by fibrous septa. The cells have irregular oval vesicular nuclei with large distinct nuclei, and a fairly abundant granular protoplasm. They are irregularly hexagonal in shape and there is found a very slight amount of interstitial fibrous tissue. Only occasionally are a few fibrils seen and these are not connected with the cells themselves. The blood vessels are relatively scarce and lie in a small amount of fibrous stroma with a slight perivascular lymphoid infiltration. The tumor at the edge shows a fibrous capsule in which there are occasionally seen small masses of tumor cells. Compressed testicular tubules in a fibrous stroma are seen at one edge of the section outside of the fibrous encapsulation of the tumor. These tubules are atrophied and show no evidence of spermatogenesis.

Microscopic Diagnosis. Epithelial tumor of the testis probably of teratoid origin.

Both these testicular tumors belong to that group of cases sometimes termed "alveolar sarcoma." They are probably, however, epithelial in origin and it is probable, as stated by Ewing, that all such tumors should be included in the group of teratoma.

The third patient, seen with Dr. James Blair, was a man of 30 whose father had a tumor of the testicle which ulcerated and drained for two years before his death.

In May, 1913, the patient had gonorrhea which was cured after two months' treatment. Three months later he noticed the left testicle increasing in size. In December the tumor was quite painful. The tumor was regular, not adherent to scrotum and not tender. The weight of it caused more or less pain in the groin. Cord normal in size.

Dr. Blair did an orchidectomy in May, 1915, and reports that there was no post-operative trouble and the patient is in good health. Pathological report by Dr. J. P. Pratt:

Specimen consists of an oval mass, 10x8x7 cm. The surface is covered by a smooth capsule which is everywhere intact. The specimen has been preserved in formalin so that the gross structure is somewhat changed. At one end of the tumor is a small circumscribed mass about 3x2 cm. which is probably epididymis. On section the tumor shows numerous cystic areas of varying size. The ground substance is fairly homogeneous and is now opaque; cuts with some resistance. There are numerous hemorrhages and many large blood vessels.

Microscopic Examination. Section shows a varying picture. There are large numbers of cells which are undifferentiated. There are others which are of definite epithelial type. These occur

as a rule around a lumen. They vary from high columnal to cuboidal and almost squamous. In some of the acini the cells have been cast off and have lost their staining reaction, somewhat simulating epithelial pearls. In one portion of the section there are grouped together a large number of blood vessels varying in size and shape. There is also an area of hyaline cartilage. The major portion of the section is made up of cells simulating fibro-blasts, some being so undifferentiated that they look like syncytium.

Microscopical Diagnosis. Teratome of testicle.

The first case was operated upon about two months after the appearance of the tumor and had the lumbar glands involved within five months.

The second case was operated six months after the appearance of the tumor and had local recurrence 18 months after.

The third case was operated 21 months after appearance of tumor and is well four months later. This, of course, is too short a time to draw any conclusions except in comparison with the first case.

The treatment of this condition is surgical and the statistics of the advocates of different procedures are interesting.

The necessity of removing the cord with the testicle is important as is shown by the second case. The advantage of an extensive resection of the contiguous parts in cases where the disease has not invaded the superficial tissues is doubtful.

Stimson recommended the removal of

1. The diseased testicle and its coverings.
2. The portion of the scrotum surrounding the diseased organ.
3. The cord as high as the internal ring.
4. The inguinal glands, fat, etc.

If the tumor has invaded these tissues it will have in all probability involved the lumbar lymphatic glands and we must consider their removal. Chevassu advocated the removal of these glands as a routine procedure and Hinman in a recent article describes and recommends it.

The operation is an extensive one and the mortality is high. In 44 cases collected by Hinman, three died of pneumonia and two of peritonitis, giving a mortality of 11%; 20 of the cases are living with only an average time of 20 months; 16 have died of secondary involvement; 22 of the cases showed an involvement of the glands that were removed and in 50% of these the involvement was so extensive as to render the case inoperable.

In three cases no lumbar glands were found.

Almost 50% of the cases operated upon showed either no glands or no involvement; 25% showed the condition so far advanced as to be inoperable. With an operative mortality of 11% this operation seems to offer very little encouragement. Another point against the operation is that these glands form a very imperfect protection. Most was able to send injecting fluid from the testicle to the subclavian vein.

Kober's mortality list is of interest in this connection:

1 died within 32 hrs.		Septic peritonitis, metastatic tumor lung.	
1	"	2 dys.	" kidney.
4	"	15 dys.	" " abdomen & pelvis.
8	"	1 mo.	Metastatic tumor internal organs.
1	"	2 "	" " " "
3	"	3 "	" " " "
1	"	4 "	" " omentum.
1	"	5 "	" " abdomen.
3	"	7 "	" " " and inguinal region.
2	"	12 "	" " lung and spleen.
1	"	18 "	" " lung.

Coley recommends the removal of the testis and cord followed by prolonged toxin treatment. He gives a series of 64 cases, many of them far advanced at the time he first saw them. In nine the toxins were given immediately after the operation; 11 cases treated by this method are well after three years. One case of note is that of cancer of an undescended testicle well eight years after operation. In his list I think we can consider nine cases as being well, giving a percentage of 15.5 cured.

After orchidectomy Codman and Sheldon in their analysis of 64 cases gave 41.07% cured. The average time of those living is given at nine years.

Kober found in 113 cases, 20% well after three years.

Chevassu gives 19% well after four years.

Discussion.

Dr. Frank Hinman: I think Dr. Willard is unfair in his conclusion that radical operation is never justified. By his own results two cases have died, and one, as he states, is in a dying condition, so that obviously, castration does not give best results. It would seem that he has not stated in all fair justice to the radical operation the results that have been obtained by it.

In regard to the mortality; eleven per cent. mortality reported is that of forty different operators. Three of these deaths were from pneumonia, and three from peritonitis, which means poor surgery. In the analysis of these cases, results have been incomplete, because of the many operators, and their scattered location. Answers to letters written to all, were received from only a small percentage. All of the cases, however, have been reported, although some have been followed for only a short time.

To quote part of the conclusion of the analysis made by me last year, which Dr. Willard criticized: "Sufficient time has not elapsed and the cases are so scattered that it has not been possible to get the ultimate result in all of the patients treated radically. Forty-six per cent. are alive, one for five years; two for over two years and eleven for one year or less. There is a probable cure in at least four cases which had lumbar glands invaded with cancer at the time of the operation. Simple castration could not have benefited any of these cases, and their cure is directly attributable to the early and clean removal of the affected lymph area."

Since writing this paper, Dr. Young has performed two of the operations at Johns Hopkins Hospital, and he found the operation by no means as difficult and extensive as it would appear.

The primary seat of metastasis of cancer of the testicle, is to a small group of glands upon the aorta and venacava. It is true that Most was able to send injecting fluid all the way up into the subclavian vein from the lymphatics of the testicle, but nevertheless, the primary group of glands are

those over the aorta and venacava. Secondary metastases to glands above occur only later.

The only hope, therefore, in a radical operation, is to remove these primary glands before secondary involvement has occurred. Obviously, castration will cure no case in which the primary glands, or any other glands are involved, and just as obviously, the radical procedure will cure no case in which the invasion has extended beyond these primary glands.

Radical procedure should never be performed when the retroperitoneal glands are palpable. Statistics show that castration will cure only about fifteen to twenty per cent., so that just as in the case of cancer of the breast, or cancer in any other part of the body, the radical operation to be of value, must be performed early, and therefore the real solution of a lower mortality in this disease, is early diagnosis. A small group of cases will undoubtedly be cured by radical operation, which castration alone would never benefit.

While the operation does appear radical and technically difficult, it is not difficult, and the mortality reported is not a true mortality, and is not the mortality that should occur in the hands of a good surgeon.

Careful selection of cases for a radical operation should be made, since it is applicable in only a small group of cases.

Dr. Martin Krotoszyner: I have only seen one case of true sarcoma of the testicle, in which the histological diagnosis was verified by Dr. Ophüls. A young man of 26 with a positive Wassermann, presented a smooth, non-lobulated tumor of the left testicle. Since no result could be obtained from specific treatment, castration was performed. The patient left the hospital about ten days after the operation. His death occurred, as I was informed, about three months later.

I believe that malignancy of the testicle should be treated in the same manner as that of other organs and receive the benefit of a radical operation right from the start. Considering the utter hopelessness of the ultimate outcome of malignant testicular tumors and the poor results of simple castration, I believe that radical operation should be performed, in the future, in all instances, in which the diagnosis has been established, and in spite of the grave operative risk connected with the procedure.

Dr. Willard: I was supposed to take ten minutes to read this paper, and so it is impossible to go into the pathological discussion.

I am not on the side of the conservatives. I am not on any side. I am open to conviction. I have not been shown as yet where the advantage lies in any operation. The more you study statistics, the more at sea you are. How do you know the disease has not progressed beyond the lumbar glands? In the reports I gave, in at least fifty per cent. the glands were too far involved to be operable.

You cannot take one good surgeon's mortality. You have to take the average mortality. In such an operation and with the length of time it takes to do such an operation, the mortality will surely be over five per cent.

**MEDICAL SOCIETY
STATE OF CALIFORNIA
MEETS IN FRESNO
APRIL 18, 19, 20
1916**

A WATER-BORNE EPIDEMIC OF TYPHOID FEVER AT SANTA BARBARA.

By J. C. GEIGER, M. D.,

Assistant Director of the Bureau of Communicable
Diseases, California State Board of Health,
Berkeley, California.

Pursuant to instructions received from the Secretary of the California State Board of Health, an investigation of a number of cases of typhoid fever, occurring in Santa Barbara, was carried on by the Bureau of Communicable Diseases, the source of infection of the outbreak not having been determined. Co-operation had been previously asked of the State Board of Health by Dr. R. F. Winchester, Health Officer of Santa Barbara.

At our initial conference, Dr. Winchester informed me that there was in Santa Barbara at that time a number of suspected cases of typhoid fever, the diagnosis of the majority being somewhat in doubt. He also stated that some of the cases had not been reported to his office.

Of the cases seen with the attending physicians, six were regarded as clinically typhoid by myself, and subsequent proof was obtained by positive Widal's at the State Hygienic Laboratory, Berkeley. One of the cases was seriously ill, having suffered a relapse, and the remaining five were practically well. In two of these cases a diagnosis of typhoid had been made, in two a diagnosis of para-typhoid, and in two no diagnosis was given.

In going over the history, the probable date of the first symptoms of the majority of these cases was around September 20. One case came down on September 16, one on September 18, and one on September 28. Widal's were taken in three of these cases early in the disease and all were negative.

Owing to the fact that my investigation was six weeks after the last case began to show symptoms, an academic discussion of the entire outbreak can only be made.

Investigation rapidly ruled out the vegetable supplies, as there was no supply common to any of the patients. Three of the cases obtained milk from the same dairy. Subsequent investigation of the dairy showed nothing that could be considered suspicious. On the other hand, all of the patients used city water.

In going over the mortality statistics of the California State Board of Health there had been reported in Santa Barbara seven deaths which could be connected with this outbreak of typhoid fever. Widal's from two of the cases were obtained in the course of the disease and both were negative. One

of the cases which died was diagnosed as typhoid fever, one as para-typhoid, and in the remaining five the cause of death was variously given; three of the cases evidently died of perforation of the intestines, and one after having considerable hemorrhage. As far as the investigation could show, three of these cases very probably came down with symptoms around September 20, one on September 18, two on September 21, and one on September 24.

Owing to the incompleteness of the records of the health office, the physicians not having reported their suspicious cases, and in some instances their cases of typhoid, the number of cases in this outbreak is a matter of conjecture. From interviews with the physicians of the City of Santa Barbara, I was forced to the conclusion that the number of cases in the entire outbreak was probably not more than twenty, but from the high mortality one would believe that the number was much greater. From the small number of cases and the high mortality, it could be considered that the infection was intensely accumulative and sudden with an abrupt disappearance. The idea of the abrupt disappearance of the infection is based upon the fact that no new cases were known to have come down later than September 28.

THE CITY WATER SUPPLY.

The City of Santa Barbara has three water supplies. One supply is from the old city tunnel in Cold Spring Canyon, which discharges into reservoirs Nos. 1 and 4 (on map) and from there into the city mains. Examination of samples from this supply showed the water to be safe for drinking purposes as far as bacteriological examination could show.

The second supply is obtained from a tunnel, seven feet high and five feet wide at the base, driven through the Coast Range Mountains into the drainage basin of the Santa Ynez River. The water supply comes entirely from this tunnel by infiltration, the dam for the control of the Santa Ynez River not having been completed as yet. The portal of the tunnel is approximately 1400 feet above sea level, and the supply is carried by gravity to reservoirs 2 and 3. Examination of samples taken at both portals of this tunnel, from the reservoirs, and from a tap within the city, showed this water to be safe for drinking purposes as far as bacteriological examination could show.

The third supply comes from the De La Guerra wells. At the De La Guerra pumping station there are seven cased wells from 200 to 700 feet deep. These discharge into a concrete and brick caisson, more or less porous, 25 feet in diameter and 30 feet deep, the top of which is six feet above sea level, and has a capacity of 110,160 gallons. From the caisson this water is pumped directly into the city mains, and supposedly fills during the night and is pumped out during the day. The wells are situated in a low space of ground, which is practically a swamp. There was water standing in this area when visited. The refuse dump of the City of Santa Barbara is about 75 feet directly across from these wells and fronting on the swamp. The surrounding region is populated and has only recently been sewered. Examination of samples

Note: If the publishing of this article would lend incentive to the now deplorably lax reporting of cases of communicable diseases, ample gratification would be felt by the California State Board of Health. It is only the prompt reporting of cases that makes it possible for the Health Officer to intelligently co-operate with attending physicians in controlling the various outbreaks of communicable diseases. The number of cases reported necessarily will determine whether the aid of the State Board of Health should be invoked for the prompt checking of epidemics and the tracing of sources of infection. It is such conditions described in this report which have sorely hampered public health work in California and have made imperative the employment of full-time health officers. Pecuniary disadvantage and political instability of the office of Health Officer, not peculiar to California, have made physicians reluctant to accept such positions and we have seen the advent of the non-medical full-time Health Officer. Public health is undoubtedly a medical science and so should always be regarded.

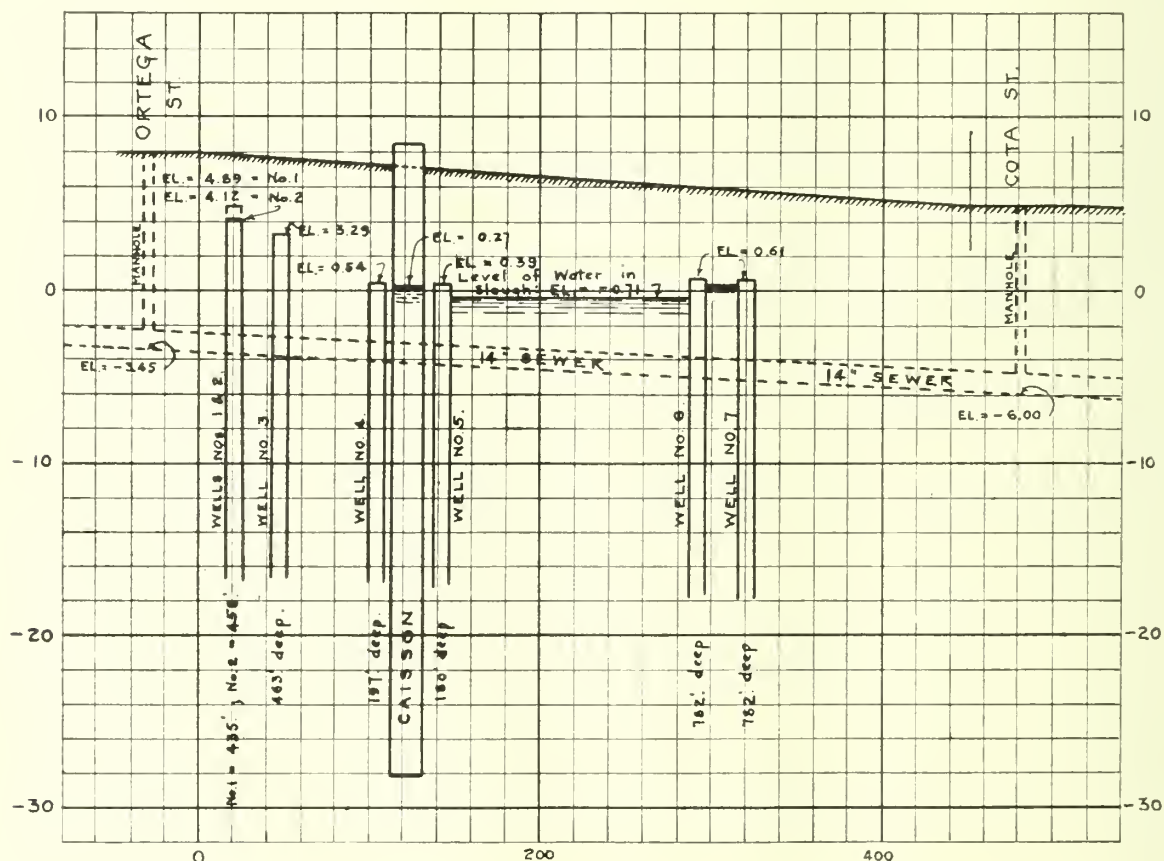
from each of the wells, done in duplicate, and at different times, showed all to be safe for drinking purposes as far as bacteriological examination could show, except Well No. 2, which pollution was confirmed in both of the examinations in 10 cc. Examination of the water in the caisson showed B coli in 10 cc. at the top, 10 cc. at the bottom, and 1 cc. in the middle, an amount of pollution which is at all times dangerous if the supply is used for drinking purposes.

DISCUSSION OF THE WATER SUPPLIES.

There have been for several months a number of workmen working in the main city tunnel of the Santa Barbara water supply. All precautions have been taken for the disposal of excrementitious material. These workmen have been changed at

frequent intervals, and none were reported ill as far as could be learned.

Owing to a shortage of the supply and the necessary cleaning of the different reservoirs, the two tunnel supplies of the City of Santa Barbara were completely eliminated and the supply from the De La Guerra wells and the water in the caisson was pumped directly into the city mains. The records of the office of the Santa Barbara Water Company showed that this water was pumped into the city mains from September 3 to 8, inclusive, and the records of the engineer of the pumping plant showed that this water was pumped into the main from September 3 to 5, inclusive. The supply of the De La Guerra wells had not been used since May, 1915, with the exception of the time recorded above. The capacity of the pumps is about 250,000 gallons a day (8 hours).



CROSS-SECTIONAL ELEVATION
SHOWING RELATION OF WELLS, CAISSON AND SEWER.
WATER WORKS SYSTEM - CITY OF SANTA BARBARA

SCALES: HORIZONTAL : 1 INCH = 80 FEET.
VERTICAL : 1 INCH = 8 FEET.

INVESTIGATIONS OF HYGIENIC LABORATORY, CALIFORNIA STATE BOARD OF HEALTH, DEC 1915.

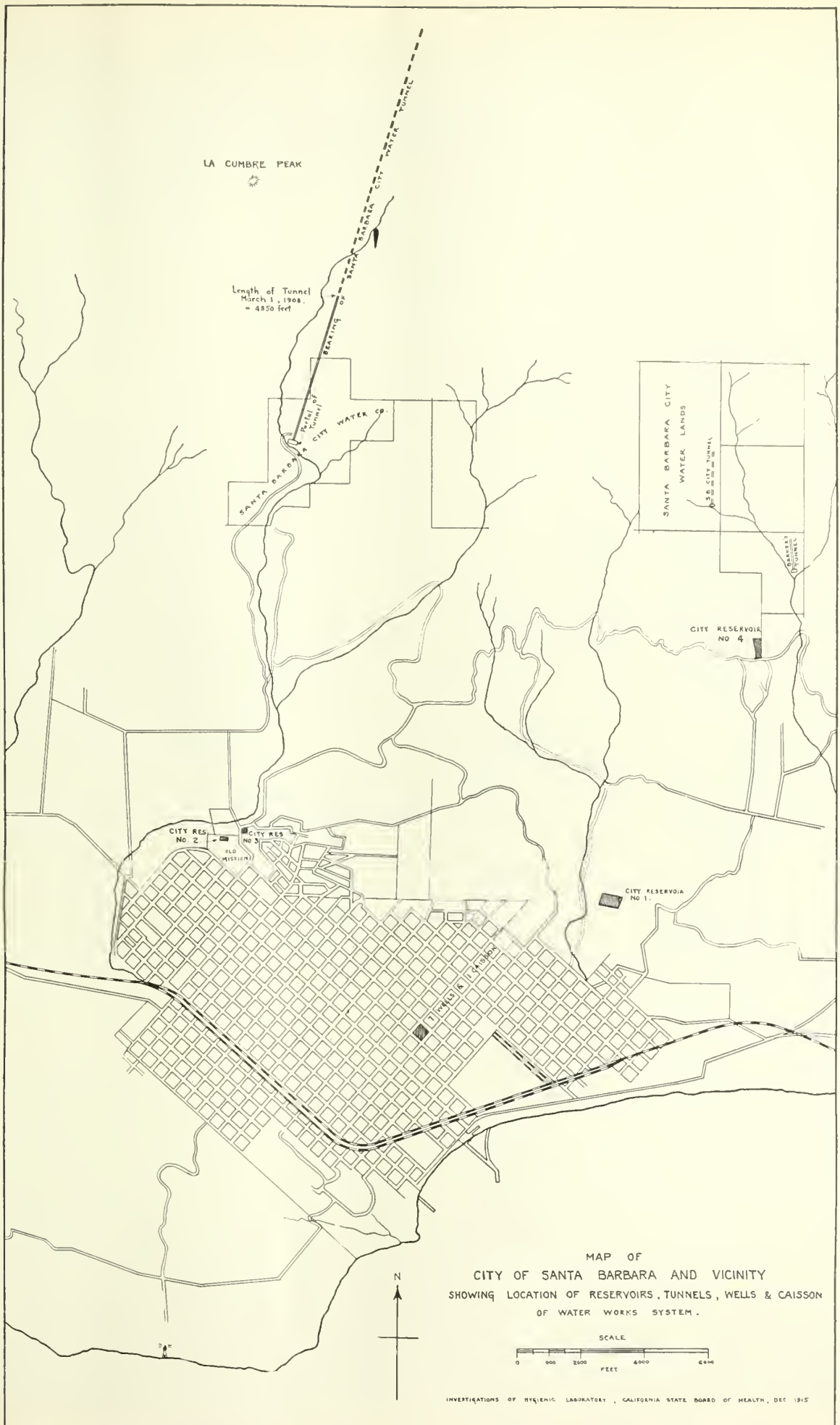


CHART II.

REPORT OF BACTERIOLOGICAL ANALYSES OF WATER, SANTA BARBARA.

Source	1915 Collected	Examined	Bacterial Count Lactose-litmus-agar Total Acid		B. Coli Index Approx. No. per cc.	B. Coli Con- firmed in	Turbidity
Well No. 1 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	15	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 1 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	2	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 2 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	23	0	0.1	10 cc.	15*
Well No. 2 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	80	0	0.1	10 cc.	5
Well No. 3 at pumping station	11/16 1:45 p. m.	11/17 5:00 p. m.	80	0	0 in 10 cc.	Absent in 10 cc.	40*
Well No. 3 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	4	0	0 in 10 cc.	Absent in 10 cc.	40*
Well No. 4 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	1600	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 4 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	15	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 5 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	15	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 5 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	2	0	0 in 10 cc.	Absent in 10 cc.	0
Wells 6 and 7 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	3	0	0 in 10 cc.	Absent in 10 cc.	25*
Wells 6 and 7 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	25	0	0 in 10 cc.	Absent in 10 cc.	40*
Cold Spring Tunnel supply	11/16 10:30 a. m.	11/17 5:00 p. m.	12	0	0 in 10 cc.	Absent in 10 cc.	5
Reservoir (1) Cold Springs and Mission Tunnel Mixed	11/16 11:30 a. m.	11/17 5:00 p. m.	35	0	0 in 10 cc.	Absent in 10 cc.	5
Mission Tunnel water supply Reservoir (2)	11/15 3:30 p. m.	11/17 5:00 p. m.	260	0	0 in 10 cc.	Absent in 10 cc.	0
Tunnel, 30 ft. inside	11/15 4:00 p. m.	11/17 5:00 p. m.	300	0	0 in 10 cc.	Absent in 10 cc.	5
Main caisson, N. side	11/15 3:00 p. m.	11/17 5:00 p. m.	23	0	0.1 per cc.	10 cc.	0
Main caisson, center concen- tration of well supply	11/15 3:00 p. m.	11/17 5:00 p. m.	25	0	0.1 per cc.	10 cc.	0
Middle of caisson	11/16 5:00 p. m.	11/17 5:00 p. m.	48	0	1 per cc.	1 cc.	7
At discharge of caisson, 4 ft. water in caisson	11/16 4:40 p. m.	11/17 5:00 p. m.	200	0	0.1 per cc.	10 cc.	30*
Tap. McKinley School	11/13 10:00 a. m.	11/14 10:00 a. m.	700	0	0 in 10 cc.	Absent in 10 cc.	5
Tap. El Miroso Hotel	11/13 10:00 a. m.	11/14 10:00 a. m.	400	0	0 in 10 cc.	Absent in 10 cc.	5

* High turbidities due to iron.

CONCLUSIONS.

No. 1. An outbreak of typhoid fever did occur in Santa Barbara, the actual number of cases not being exactly ascertainable owing to the non-reporting of cases and the resulting incomplete records.

No. 2. The tunnel water supply of the City of Santa Barbara is safe for drinking purposes.

Again, the most probable origin of infection of the cases is the water supply. Laboratory evidence is conclusive that a polluted water supply was pumped directly into the city mains at a time, considering the interval of the appearance of the symptoms of the first cases, not inconsistent with the incubation period of typhoid fever.

No. 3. Notwithstanding the laboratory evidence of pollution of well No. 2, 458 feet deep, it is possible to consider another source of danger from

the leaking of the caisson, and subsequent contamination of its contents by seepage from the natural dangerous surroundings. One would be led to believe that water from the polluted well, diluted, as it is, with the unpolluted product of the other wells would be apt to clear itself of pollution by sedimentation, particularly is this so when you consider the water in the caisson has not been disturbed in two months. In the examination of samples, the appearance of gas having been very slow would serve to indicate that one was dealing with an attenuated organism, which observation is applicable to either explanation of the pollution of the water in the caisson.

No. 4. Well No. 2, reputed to have a depth of 458 feet, on two occasions, showed pollution. It is quite possible that this pollution may enter from

upper polluted ground levels, due to perforations in the casing. In any event, whether the pollution enters at the bottom or through these upper levels, the well is condemned and should be abandoned as long as these and other tests corroborate the pollution demonstrated.

No. 5. In this particular caisson located in a populated section where the ground waters are undoubtedly contaminated and subject only to the variable and uncertain improvements due to percolation through soil, there is every opportunity for the entrance of such polluted ground water into the caisson in question. In view of the analysis, the use of this caisson as a source of storage for drinking water should be eliminated.

No. 6. Attention is called to map showing cross-section of wells and caisson and their relation to the swamp. Also the relation of the 14-inch sewer which passes approximately 50 feet away from wells and caisson. On account of difficulty of obtaining tight joints in sewers laid in swampy areas and the chance of settling of pipes it is probable that the contents of the sewer will leak out with resulting contamination of ground waters.

No. 7. The protection of the public from typhoid fever necessarily involves community action. Therefore, the checking of water supplies by bacteriological examinations and sanitary inspection is commensurate in importance with all the civic duties and must be accurately done at frequent intervals.

PERSONAL EXPERIENCES WITH ROENTGEN RAYS IN GYNECOLOGIC PRACTICE.*

By HENRY F. KREUTZMANN, M.D., San Francisco.

In 1914 I had the pleasure of reporting to you my observations on the use of Roentgen rays (X-rays) and mesothorium in gynecologic practice, as I had seen it during a visit to a number of German university clinics. Tonight I wish to record a few personal experiences in my own practice.

After my return from Europe, I had installed an X-ray apparatus, just as I had seen it employed at Heidelberg, Freiburg, etc., with all the accessories necessary for a scientific, accurate application of X-rays. It took some time before the apparatus arrived and before it was in working order, so the time of work is only a little over a year, and consequently the number of cases treated with X-rays is small. There are other reasons why the number of cases treated with X-rays is small. The medical fraternity of San Francisco and California is strongly inclined to operations and has educated the public to favor operations in preference to conservative treatment. There is some merit in

this position; if you operate upon a woman, you accomplish—in many cases—a speedy, certain cure, whereas conservative treatment is tedious in its application and uncertain in its outcome. Especially, when a woman comes some distance to her physician with some ailment, she wishes upon her return home to be freed from her troubles and not to be told to come back for further treatment; many are willing to take some risks under these circumstances.

On the other hand, X-ray treatment is not a panacea, a cure-all; it cannot and does not take the place of all other efficient treatments; but for a certain limited class of ailments it is of greatest benefit; a careful selection of cases must, however, be made.

In the first place, it is in the so-called metropathia hemorrhagica where its application may be called *the* treatment. Without any change in the size of the uterus, without any change in the condition of the endometrium, some women at the approach to, or at the time of the change of life, begin to bleed profusely, they have menorrhagia or metrorrhagia. Curettage of the uterus does not bring any relief, nor do styptica; hysterectomy is occasionally resorted to. These floodings are explained as occasioned by the climacteric changes in the ovaries, are considered due either to reflex action or to the influence of inner secretion of the ovaries. With the exclusion of the activity of the ovaries the uterine hemorrhages cease. The "X-ray castration" acts in these cases "*cito, certe et jucunde*," that is, a speedy and sure cure is obtained without any inconvenience.

Next to metropathia hemorrhagica has the fibromyoma uteri become the object of most frequent application of X-rays in gynecologic practice. Fibromyomata uteri as such are not an indication for intervention; it is the symptoms produced by them, notably hemorrhages and pressure, which call for help. Among the cases of fibromyoma uteri, where something has to be done, is one group to which X-rays must not be given, namely, very large tumors; rapidly growing tumors; tumors undergoing some change; pedunculated subserous tumors; submucous tumors.

Another group of cases, where operation means a grave risk, includes women with affections of the lungs; poor heart; bad kidneys; phlebotasias; profound anemia; diabetes; here X-rays are applied to greatest advantage.

There is still another group of cases where relief is wanted and where operative interference has become a very safe procedure; some operators have published series of 100 consecutive recoveries after operation for fibromyoma uteri. For this class of

* Read before the San Francisco County Medical Society, November 16, 1915.

cases, X-ray treatment is the treatment of choice; extraneous circumstances, such as fear of the knife, remote sojourn of the patient will decide what to do.

The number of cases treated by me so far is 12; cases of recent date are omitted; eight were cases of fibromyoma, four of metropathia hemorrhagica.

The first case turned out to be very instructive.

Mrs. W., 45 years old, had borne several children; had been operated upon by me 12 years ago, plastic vaginal work was done; had flowed much for about eight months, protracted menses with severe flow. At the same time she noticed a swelling of her face, hands and feet. Upon examination I found a spherical fibromyoma uteri reaching to half-way of umbilicus with small cervix; deep anemia; 40% hem. (Thalquist); condition of subacute nephritis. This seemed an ideal case for X-ray treatment: the hemorrhages were a strong indication for treatment; the condition of the kidneys presented some operative risk; so X-ray treatment was started at the same time as the treatment of the nephritis.

The result was that the manifestations of the nephritis disappeared, the hemorrhages ceased, menstruation became scanty; in the course of a few months the patient's general health improved remarkably; she stopped X-ray treatment, when at once she had again a most severe uterine hemorrhage. Operation was then decided upon. Opening the abdomen at the German Hospital, I found a uterus strongly resembling a pregnant or puerperal uterus; cutting it open after removal, hysterectomy, a submucous lympho-myoma of the size of a three months ovum was discovered. Recovery was uninterrupted, the patient's health restored permanently.

The case teaches us that errors of diagnosis are possible, and that no harm is done through the application of X-rays.

Two women with fibro-myomatous uteri, who had been suffering from severe hemorrhages, are still under observation, both much improved, a permanent cure: cessation of menses is soon to be expected.

In one case, tumor of the size of a double man's fist, with much pain in abdomen and protracted menses producing slight anemia, X-ray treatment relieved the pain and regulated the flow to normal; patient remained in satisfactory condition over six months, when the old symptoms returned and another treatment became necessary to regulate the flow.

In four cases a perfect result was obtained: the menses ceased, molimina appeared. I do not wish to say anything about the diminution of the tumor; unless a disappearance or very marked shrinkage of the tumor takes place, the matter is one of personal estimation, and in the cases treated by me so far the tumors have not disappeared.

Four cases of metropathia hemorrhagica were treated: two perfect results; in two cases the women were satisfied when the flow had become normal again.

I have reported these cases, not because further publication of cases is needed to prove the efficiency of the method; that fact is established beyond the shadow of a doubt; I rather wanted to base a few technical remarks on my report.

Roentgen rays are a powerful agent; we must know the doses that we administer. There are a

number of methods in use to measure X-rays; scientific workers are still engaged in improvement. The method that I saw employed everywhere in Germany, and that I have employed, is the Kienboeck-strip method.

It was found that to produce an epilation-dermatitis a definite, constant amount of X-rays is required and this fixed amount has been made the basis for different methods of measurement: Sabourand-Noiré's pastille, Holzknicht's and Kienboeck's photometry.

Kienboeck calls the erythemdosis 10x and divides the space from zero in 10 parts; these 10x correspond to 5 Holzknicht, to teinte B Sabouraud-Noiré.

Some gynecologic clinics in Germany measure every single time an application of X-rays is made; others put a strip in place every other time. I had to be economical with my Kienboeck strips, because on account of the war it is at present impossible to get these strips; but whenever I treat a patient, an occasional test is made with Kienboeck strips.

There is some disadvantage in this method because one cannot know the doses while the X-rays are applied; only after the treatment is finished the strips are developed and then the amount of the X-ray doses is found. But no damage is to be feared because, if we know the hardness of the tube, and if we keep the tube at a certain vacuum; with a fixed secondary milliamperage, with a certain time—the result will be the same approximately, and from previous experimentations we have learned how to avoid the danger-zone.

There are two methods employed in the treatment in gynecologic practice. One is the so-called Freiburg method; its object is to administer massive doses in order to obtain a maximum effect in as short a time as possible; hundreds of x are given at one treatment. Another method aims to give just enough to accomplish the purpose, 60-90-120 x are considered sufficient at one séance.

I started out to employ the Freiburg method, but I found through the Kienboeck strips that I could not reach the many x as I had seen and expected to reach. So I came to employ the second method, using 8 fields and giving 10-15 x surface doses, filtered, through each field.

The apparatus used is an induction coil; the type of tube the Muller water cooled rapid tube with either Osmose or Heinz Bauer air regenerator. The introduction of the Lilienfeld and Coolidge tube in Germany and America respectively is bound to revolutionize the deep X-ray therapy, as it is doing the diagnostic work. Its great advantages are: large amount of hard rays, stability, short duration of exposure, ease of manipulation.

I am experimenting now with a Coolidge tube, with the kind assistance of Mr. Geo. Bush, formerly of Walters Surgical Company. I have not yet fully succeeded in getting the high doses in the short time others are getting: Dr. Pfahler of Philadelphia and Dr. S. Stern of New York; the latter uses exactly the same outfit that I have; he writes me that he gets 5 x in one minute; he gives 20 x on each of 18 fields at each séance. The employment of the Coolidge tube in my work is bringing

me back gradually to the Freiburg method of giving large doses.

The success of Roentgen rays treatment in gynecology depends, in my opinion, mainly on two factors: 1, proper selection and careful supervision of the cases; 2, the technic of application. The possibility of an error of diagnosis must always be before our mind; it is absolutely necessary to follow up every case carefully, in order to avoid the unpleasant occurrence that a malignant complication should be overlooked; only a competent gynecologist is able to do that; co-operation with an X-ray operator, Roentgenologist, appears to me not desirable; X-ray treatment for diseases peculiar to women should be carried out by a physician well trained in diagnosing these affections. The technic must and can be learned.

It is most important to avoid burns. It appears to me that many people have been burned, and a deep-rooted distrust and dislike is encountered in very many persons against the curative use of X-rays. The introduction of the aluminum filter has overcome all dangers for the skin; other precautions have certainly to be employed, and above all the dose has to be measured; re-application to the same part of the skin has to be carefully considered, etc.

Before closing, I wish to add to the foregoing personal experiences a few remarks that are based merely on study of literature and previous clinical observations. I have, as stated, treated so far only patients with fibromyoma uteri and metropathia hemorrhagica. I believe that X-rays can also be successfully applied in hemorrhages of the menarche, that is, floodings at the start of menstrual life; very favorable reports have been made.

Furthermore, I consider it of the very greatest importance that every woman who has had an operation for a malignant growth should be submitted to a regular treatment with X-rays after operation; this rule may well be extended to all and every case of operation for a malignant growth, in man as well as in woman where feasible. No doubt X-rays are able to destroy cancer cells; the knife altogether too frequently fails to remove all the neoplastic cells, which form the basis for a relapse. Early, extensive operation is not sufficient; a systematic X-ray treatment after operation is essential to increase the number of permanent cures.

BOTULISM: ITS OCCURRENCE IN CALIFORNIA.*

By ERNEST C. DICKSON, M. D., San Francisco.

(From the Division of Medicine of the Stanford University Medical School.)

The occurrence of several cases of botulism within the past few years would seem to justify a brief description of the disease, as it has received but little mention in the American literature. The importance of the condition insofar as the Pacific Coast states are concerned has been emphasized by the fact that there have been recently several fatal cases in California and one in Oregon. In November, 1913, twelve persons were stricken in an

outbreak at Stanford University, one resulting fatally, and in reporting these cases Wilbur and Ophüls referred to two other outbreaks, one described by Sheppard in 1907 in which three persons died after eating canned pork and beans, and one described by Peck in 1910 in which twelve persons were affected and eleven died after eating canned pears. In both of these outbreaks the diagnosis of "ptomaine poisoning" was made, but in both the symptoms were identical with those of botulism, and it is highly probable that the bacillus botulinus was responsible for the poisoning. Since that time there has been an outbreak in Fallbrook, Cal., in which five persons died after eating canned apricots, and one in Boston with recovery in which the source of the poison was thought to be minced chicken.

The more recent cases have occurred within the past few months. In Hillsboro, Oregon, a woman and forty chickens died after eating canned corn, and in San Jose, Cal., a woman and eight chickens died after eating canned string beans. In both of these instances the patients died after an illness which in every way resembled botulism.

The most important fact concerning these cases is that, with two exceptions, all were produced by eating spoiled canned vegetables or fruits, and that in all of the latter the vegetables or fruits had been canned at home. Among the several hundred cases which have been described in the European countries the only outbreak in which the poisoning was traced to vegetables was that which occurred in Darmstadt in 1904 in which twenty-one persons became ill and eleven died after eating a bean salad which had been prepared in a cooking-school; and in this instance it was thought that there must have been some pork cooked with the beans because "it is not possible to cultivate botulinus in other than meat containing media" (Landman).

Subsequent to the outbreak at Stanford University, an investigation was undertaken in our laboratory to determine whether meat protein was necessary for the growth of the bac. botulinus and for the development of its toxin, and we found that in canned beans and canned peas in which the reaction had not been altered the toxin would develop in sufficient amount to produce the typical symptoms and to cause the death of animals which were inoculated. Leuchs reports that after the Darmstadt outbreak Gaffky had performed similar experiments, and that he had found that the toxin would develop in media prepared from beans, but that fact was not emphasized and has not been generally understood. The prevailing conception of the disease is that botulism is produced only by spoiled meats, usually pork, and that it is not produced by food that is of vegetable origin or in which the reaction is acid.

Botulism has been recognized in Europe for many years and there have been many cases reported in the European literature. It is a type of food poisoning which is characterized by peculiar disturbances of the central nervous system, and which in 1907 was found by van Ermengen to be due to the action of a toxin which is produced by the growth of an anerobic, spore-bearing bacillus

* For Bibliography see Botulism, an Experimental Study. Journ. Amer. Med. Assoc., 1915, LXV, 492.

to which he gave the name bacillus botulinus. The toxin may be separated from the bacilli by filtration of the medium through a Berkfeldt filter, and van Ermengen and others have shown that it is the toxin and not the bacilli which is responsible for the poisoning. The toxin develops only under anerobic conditions and is soon destroyed if exposed to light or to air, or if heated to 80 degrees Cent. (176 Fahr.). Its presence in media or in food is indicated by a peculiar rancid odor which resembles that of butyric acid and which is not unlike that of rancid butter or certain kinds of cheese.

The bacillus is a strict anerobe which is Gramm positive and which readily forms spores. It has been found in nature but once, and then in the feces of hogs (Kempner and Pollak). It grows most readily at a temperature of between 18 and 30 degrees Cent. although it may form its toxin at temperatures outside of these limits. The toxin is much more virulent if the bacillus is grown in an alkaline medium and in the dark. The spores are slightly less resistant to heat than are those of many other bacilli, but they will withstand heating to .. degrees Cent. for .. minutes.

But little investigation of the histology of botulism has been made on the tissues of human victims of the disease. Following van Ermengen's investigations, he, Marienesco, Kempner and Pollak, Römer and Stein and other authors made histologic examination of the tissues of animals in which the condition had been induced, and they all agreed that the most important lesion was a peculiar disintegration of the Nissl granules of the ganglion cells of the motor portions of the cord and of the medulla, pons and peduncles. Van Ermengen also described diffuse hyperemia and hemorrhages in the abdominal and thoracic organs as well as in the meninges.

In the Stanford University fatal case Ophüls found a peculiar cellular thrombosis of the vessels of the meninges and of the brain, many of which were filled with thrombus in which were many leukocytes. There was also marked hyperemia of the abdominal viscera, and small thrombi were found in the vessels of the intestinal sub-mucosa and in those of the cortex of the ovaries. Similar thrombi, hyperemia and hemorrhages were found in the brain and in the abdominal and thoracic viscera of the animals which were inoculated in our series of experimental botulism as well as in the tissues of the chickens and in those of the woman who died in the recent outbreak in San Jose.

The symptomatology of botulism has been summarized by van Ermengen as a neuro-paralytic symptom-complex characterized by disturbances of secretion and symmetrical motor paralyses. The first symptoms usually appear in from twelve to twenty-four hours after the ingestion of the infected food, but rarely they appear much earlier, in from one to two hours, and more often they are delayed, sometimes for as much as from three to nine days. There may be initial vomiting and diarrhea but usually the disease is characterized by the absence of acute gastro-intestinal disturbances,

and obstinate constipation is more common than is diarrhea. Disturbances of vision are often the first thing noticed by the patient. There may be an initial dimness of vision without apparent retinal changes, and usually this is soon followed by disturbance of accommodation and double vision. Ptosis, mydriasis, nystagmus and strabismus may occur, and there is frequently much vertigo. Disturbances of speech and of swallowing soon follow. The latter is partly due to the fact that there is a diminution of the flow of saliva which becomes thick and viscid, but is chiefly due to paralysis of the muscles of deglutition. There is progressive muscular weakness which may increase until there is complete paralysis of the skeletal muscles. Headache and disturbances of sensation and of mentality are rare. There is usually a diminution of urinary output, due partly to lessened secretion and partly to retention. The temperature, pulse and respiration remain practically normal. In the fatal cases the progress of the disease is usually rapid and death occurs in from two or three to ten or twelve days. Death usually results from respiratory or cardiac failure.

The mortality varies in different outbreaks, but averages about forty per cent. of the infected cases. If the progress of the intoxication ceases before any of the vital functions are disturbed the prognosis is fairly good, although recovery is very slow and convalescence is tedious. The disturbances of vision appear to be the last to clear up, and cases are recorded in which there were still some ocular disturbances several years after the infection. The complication most to be feared is insufflation pneumonia but decubitus ulcers are not uncommon.

Diagnosis may be difficult if a single case is seen because of the close resemblance to acute bulbar paralysis, acute poliomyelitis, cerebral syphilis or gelsemium and hyoscyamus poisoning; but where a number of persons who have partaken of a common article of food develop the symptoms there is little difficulty in recognizing the cause.

In the more severe cases treatment is of little benefit, but since recovery occurs in so large a percentage of cases, active therapeutic measures should always be undertaken as soon as possible. The stomach and the colon should be thoroughly washed out to remove any toxin that may remain, active purgation should be induced if possible, preferably with castor oil or epsom salts, and the patient should be supported as much as possible. Strychnin seems to be of especial benefit in improving the action of the paralyzed muscles, and other stimulants should be given as indicated. The patient should be kept absolutely quiet and plenty of water and simple food should be supplied. The danger of insufflation pneumonia should be kept in mind and it is therefore better to give the water by rectum or by hypodermoclysis instead of by mouth.

Specific serums have been prepared and the results of their use in laboratory experiments have been most satisfactory, but it is necessary that they be given as early as possible. There is apparently some difference in the specific action of the various strains of the bacillus so that polyvalent sera are

preferable. At the present time I know of no supply in this country but there is little doubt that they will be available as soon as the need is recognized.

The importance of recognizing that botulism occurs in this portion of the country and that the toxin may develop in vegetables and probably also in fruits, can scarcely be over-estimated. In a locality in which so many fruits and vegetables are canned at home each year, the possibility of contamination with the bac. botulinus as well as the terrible results which may follow if the contaminated food is eaten, should be known to all the people. There is no doubt that the methods of sterilization which are commonly employed by the housewife in canning are inadequate. The United States Agricultural Department has issued bulletins in which it is urged that fractional sterilization be employed in canning fruits and vegetables, but this advice is disregarded by the great majority of housewives and cooks. The frequency with which jars of fruit and vegetables "spoil" is positive evidence that all the bacteria and molds have not been destroyed in the canning process. All that is necessary to place many lives in imminent danger is that the food happen to become contaminated with the spores of the bac. botulinus and that the sterilization be insufficient. And it should be remembered that the bacillus has been found in pig's feces, and that vegetables which are grown on ground which has been fertilized with hog manure may be contaminated with the spores. The sealing of the cans and storing of them in a dark place establish ideal conditions for the formation of the toxin, especially in a climate where the temperature is rarely below that at which the bacillus thrives.

It is urgent that a campaign of education be commenced as soon as possible and that persons who practice home-canning of fruits and vegetables be instructed in the proper methods of sterilization. It is to the medical profession that we must look for the inauguration of such a campaign, and the object of presenting this report is to place the matter before the physicians of the State.

DIAGNOSIS OF MALARIA.*

By J. R. SNYDER, M. D., Sacramento.

In January of this year we reported before the Sacramento Society for Medical Improvement our experiences with the urobilin test in malaria.¹ Since that time we have been able to make a considerable addition to our total number of cases studied and it is our intention today to call your attention to the findings and also to the conclusions we have reached after our second series.

Plehn, working in German East Africa, reported in 1909 his original work made in the attempt to find some means of recognizing that a return to the original locality is frequently followed by a return of symptoms of malaria. No doubt had the original infection been entirely cured there would not be a return of symptoms, but how is one to know when a cure has been effected? If

quinine is given over a sufficiently long space of time the plasmodia will be killed. Estimates of from one to six months of quinine administration are given as the length of time necessary to accomplish this. Quinine taking is disagreeable, especially to those who have a special idiosyncrasy for it, and moreover they object to a prolonged administration when they see no effects of disease.

Given a case in which there are chills and fever, followed by sweating, and in which plasmodia can be found in the blood, the diagnosis is simple. But we rarely see a case that has not taken at least some quinine and after 24 to 48 hours of even moderate doses the plasmodia disappear from the circulation. The demonstration of plasmodia is very positive but sometimes it requires considerable laboratory skill and a great deal of work to identify them. Besides, a smear made during a chill or within eight hours after, is likely to appear free from the plasmodia. There are changes in the normal blood components which are suggestive, such as a relative increase of large mononuclear cells which persists for three to six weeks after the acute symptoms subside. Polychromatophilia may be present for weeks, but on the other hand may disappear early. These findings are only relative and require not only a painstaking search but considerable experience for correct interpretation.

Plehn found, and it is generally recognized, that there are inflammatory changes in the liver as well as in the spleen in malaria. Coplin² says, "in the acuter cases of malaria the hepatic changes resemble those seen in certain bacterial infections, the organ is swollen . . . and the biliary passages are not infrequently the seat of a well marked catarrhal cholangitis. In more chronic cases the pigmentation is marked, the fibrous tissue increased, and not infrequently a moderate degree of red atrophy is present." It is upon these inflammatory changes that the rationale of the urobilin test is based. Urobilin is formed in the intestine by the reduction of bilirubin through bacterial activity. The urobilin is absorbed and carried back to the liver. A normal liver sends it back to the intestine with the bile where it is excreted. A liver inflamed from whatever cause allows it to escape to the blood stream where a portion of it is excreted through the kidneys. Therefore, as we said before, the presence of urobilin in the urine is not specific for malaria but in our series of diagnoses of the liver cases in which the urobilin was found, was so evident that there was no trouble in differentiation. Also where we meet considerable blood tissue destruction, as in advanced pulmonary tuberculosis or carcinoma, and very occasionally in a normal subject, a faint positive may be present.

The technic of the test is quite simple. Add equal parts (2-3 cc.) of a saturated solution of zinc acetate in absolute alcohol to fresh urine. Shake. Then add two to three drops of a special Lugol's solution, made up as follows:

I. 1
KI. 2
Aqua. 50.

Shake and filter. A fluorescence in the filtrate indicates a positive reaction.

* Read before the California Northern District Medical Society at Sacramento, November 9th, 1915.

In a series of 120 cases of malaria who entered the Sacramento County Hospital we found the plasmodia in 38 cases while the urine gave 87 positives. The fluorescence was present in all cases with plasmodia except three. In these the plasmodia was found soon after the first chill and at that time the fluorescence was absent. Usually the fluorescence shows up a few days after the first chill. In 163 controls we found 8 positives, including 4 late cases of tuberculosis of the lungs, 3 cancer of the liver, showing marked cachexia and bile in the urine and one retrocecal abscess, following appendicitis, the liver forming part of the abscess wall.

The following tabulation makes clearer the results:

Total number of cases tested.....	238	
Total number of malarias (clinical)...	120	
Total number of malarias with pos. blood	38	32%
Total number of malarias with pos. urine	87	73%
Total number of controls.....	163	
Total number with pos. urine findings	8	7%

CONCLUSIONS:

The test for urobilin is simple and inexpensive. It can be done by inexperienced laboratory workers.

It is not specific for malaria.

It is not constant in early stage of acute malaria.

It was present in 73% of cases tested after the disease had existed six days.

It is of particular value in subacute and quiescent malaria.

1. The Urobilin Test in Malaria. California State Journal of Medicine, July, 1915.
2. Manual of Path., p. 176.

REPORT OF CASE.*

By PAUL S. CAMPICHE, M. D., San Francisco.

This man is 37 years old. Since the age of 14, he had in the front of the neck a small lump that was free and movable. Ten years later, i. e., in 1903, that nodule began to grow and had to be excised. It was operated on six times altogether, and it recurred soon after each operation. As you can see, the tumor which has returned is adherent to the sternum and to the other structures of the neck, and is evidently inoperable. I removed a piece of it from the center which I sent to Dr. Ophüls for examination, and he confirmed our clinical diagnosis of malignant adenoma or adenocarcinoma of the thyroid.

You also see here on the left parietal bone, the remnant of what has been a very large metastasis, the patient says as large as his two closed fists put together. This metastasis appeared in 1913, and was treated by injection of Coley's fluid by some other surgeon with a good result, and all that is left of it is a firm scar, something like an exostosis, on the skull, with no more evidence of malignancy. Dr. Lartigau, who examined this growth microscopically, found it to be an adenocarcinoma.

What I want to emphasize here to-night, is the peculiar nature of secondary growths in this type of tumor of the thyroid. As is well known, they have a predilection for the bones, especially the bones of the skull. Like the primary growth, the metas-

tasis runs a very slow course. It is not very malignant, and in this regard has been compared to myeloid sarcoma. Contrary to the definition that says that tumors are functionless, this type of metastasis (Kocher calls this growth metastatic colloid struma) produces a colloid substance, and cases are known where the cachexia strumipriva did not follow a total thyroidectomy as long as the metastasis was left alone.

The point of interest to which I call your attention to-night, lies in the fact that, in the whole field of surgery, this is the only instance where it is really worth while to attempt a radical operation on a metastasis with a fair chance of cure, due, in this case, to the relative malignancy and to the extremely long duration of primary adenocarcinoma of the thyroid. Several surgeons have put on record cases of such metastasis cured by a radical operation (Kraske, Riedel, Von Bruns).

We now treat this patient for the primary growth by injections of Coley's fluid and boiling water.

AN ARTHROPLASTY OF THE ELBOW.*

By REXWALD BROWN, M. D., F. A. C. S.,
Santa Barbara.

Case history: Miss H. C., aged thirty-seven years. Previous and personal history negative except typhoid fever at age of eighteen and a periostitis of left tibia following a bruise at age of thirty-three. The present trouble commenced in December, 1913. One day she stood waiting for a street car for one-half hour and became greatly chilled by a cold wind which blew from the ocean—"chilled to the bone," as she expressed it. Five days later she again had a chill immediately followed by severe pain over the left clavicle and throughout entire right arm. Within twenty-four hours a mass the size of a walnut developed over left clavicle and the right arm became swollen throughout, especially in elbow, less so in wrist and fingers. Temperature developed to a degree not recalled. The physician who was called said she had rheumatism and prescribed. The condition then drifted on for ten weeks, the swelling and pain, particularly about the elbow, being continuous. The swelling over clavicle disappeared in two weeks. The arm during this period was supported in full extension on pillows. At the end of ten weeks the pain and swelling subsided. The arm was then found to be locked in practically full extension.

Examination in March, 1915: There was no flexion or extension in right elbow joint. Pronation was normal and supination somewhat limited. X-ray photographs showed bony ankylosis between the articulating surfaces of the olecranon process and the humerus. Operation was performed April 1, 1915. Under ether there was no motion in joint. The technique will be described later. The pathology as found at the operation was that shown by the X-ray photograph—a bony ankylosis between the articulating surfaces of humerus and olecranon process. Results—Examination December 1, 1915. Miss H. C. has practically perfect use of arm—flexion is perfect—extension is not quite complete—pronation and supination as before operation.

This case presents material which could give body to at least three papers of some length. The error in the original diagnosis "rheumatism" prompts a paper on the inadequacy of the profession in the recognition of the differences in the types of joint involvements, so loosely, easily and carelessly grouped under the meaningless word just used. This inadequacy, however, let it be

* Read before the San Francisco County Medical Society, February 15, 1916.

* Read before the Southern California Medical Society, Los Angeles, Cal., December 1, 1915.

said, is growing less since the profession has devoted itself to joint lesions, little studied until recent years. Further, another paper would be timely on the pitiful failures in treatment in certain joint infections, notably those of the acute metastatic variety of which this case is an example. And finally, the literature is not burdened

instance, a metastatic arthritis indicating and justifying most energetic surgical measures.

Let us refer to the foregoing history: the patient stood in a cold wind and became thoroughly chilled; five days later she had a chill followed by temperature and severe pain over left clavicle and through entire right arm, which became



Fig. 1—Before operation—Degree of ankylosis.



Fig. 2—Elbow joint six months after operation.

with reports of surgical procedures for the relief of ankylosis of joints and, therefore, it seems permissible to report the method and results in this case.

But, this is not three papers—my intent in a short paper is to call attention to salient features from the three viewpoints referred to.

DIAGNOSIS.

The acute swelling of one or more joints with pain and temperature should not be settled at once by the doctor by calling it rheumatism, a shield for ignorance of the real situation, but usually hopelessly satisfying to the patient. There is an emphatic statement frequently heard by those who visit Dr. J. B. Murphy's clinic. It is "every type of non-traumatic joint infection is a metastatic manifestation of a primary infection in some other part of the body." Of course, the clinical picture may be that of acute rheumatic fever which there should be little difficulty in differentiating and treating. The gross disaster to the patient arises in calling some other form of joint involvement just rheumatism when it may be, for

greatly swollen—most marked about the elbow—in twenty-four hours; the pain was so great arm could not be touched or moved.

Similar cases seen by other observers have led them to press the conviction that there is a definite order of features in the clinical picture and that the order should be designated as classic of acute metastatic arthritis. The features are: (a) predisposing factors;—(1) chilling of body surface, (2) wetting of feet, (3) fatigue, (4) trauma, and (5) focus of infection elsewhere in body, sometimes not discoverable, and (b) the clinical phenomena—(1) chill or chilliness, (2) diffuse pains in muscles, bones and joints, usually of one extremity, (3) elevation of temperature, (4) extreme pain and effusion into one joint, rarely more than two, (5) loss of motion, and (6) tenderness.

Of these clinical phenomena the most important is the chill. It is of the gravest significance to the patient. Absent in the syndrome, the possibilities of joint restoration to normal, after the infective process has subsided, are excellent. But present, it almost invariably means ankylosis of

the joint, despite the hopefulness of the doctor in the efficacy of salicylates, heat and rest, "rheumatic remedies." The blood stream has carried to the joint micro-organisms of the most virulent type. Only through institution of immediate and energetic surgical treatment is there possibility of staying the ankylosing forces, and often this treatment fails.



Fig. 4.

TREATMENT OF THE INFECTION.

The objects to be achieved in treatment are: (a) relief of pain, (b) prevention of joint destruction with subsequent ankylosis and deformity, and (c) preservation of the joint usefulness.

Dr. J. B. Murphy has worked out certain procedures which to a great or less degree serve these aims. As the pain is due in part to tension within the joint from accumulation of fluid and infective products, aspiration will considerably lessen it. This must be done under general anesthesia and with the utmost care to avoid unnecessary trauma. The aspirating needle should be fairly large with a short bevel.

The fluid drawn off, the anesthesia continuing, the joint is injected through the same needle with a twenty-four-hour-old two per cent. solution of formalin in glycerine. The syringe used should be of the strong screw type as it is difficult to force the thick mixture into the joint. This solution accomplishes, by increasing leucocytosis and phagocytosis, a sterilization of the joint. The aspiration and injection may be done several times.

As the pain in the joint is also due to intra-articular pressure the result of the involuntary contractions of the muscles about the joint, and as

this pressure tends to induce ischemia of the parts and necrosis of the articulating surfaces, both conditions can be relieved by the use of extension on the limb below the joint. This extension, which must be applied until all inflammatory processes are stilled, perhaps several weeks in point of time, also corrects malpositions of the limb. Especially in the case of a leg, even though ankylosis occurs, if Buck's extension has been used the limb is straight and useful for walking.

ANKYLOSIS AT ELBOW.

Ankylosis of the elbow in any position is a serious lesion. The arm's function is markedly interfered with. Yet a position of flexion to ninety degrees or more is least disabling and during the period of infective activity the forearm should be maintained at such angle. Thus is insured, in case ankylosis occurs, certain definite usefulness. Do not permit, as happened in this case, the forearm's being completely extended on the arm, for the condition of ankylosis in this position creates an almost complete uselessness of the entire arm.

OPERATION—ELBOW ANKYLOSIS.

The operative steps in this case were patterned after the technic of Dr. J. B. Murphy, whose surgical achievements in ankylosis are more extensive than those of other operators. The technic in brief is as follows: Two lateral incisions, about three inches long, are made, one on either side of the olecranon. The ulnar nerve is located, freed from its bed, and retracted out of the field. The soft tissues over the former joint surface are carefully separated. A curved chisel is then driven in between the olecranon and humerus in line of former joint, first through the internal and then through the external incision, until the ankylosis gives way.

If there be ankylosis between the head of the radius and lesser sigmoid cavity, and between radius and humerus, these are also chiseled free. The olecranon fossa is next deepened and sufficient bone removed from humerus and radius to allow free extension and flexion. Be careful not to remove too much—this might lead to a flail joint. The anterior capsule is freely cut away.

Now one or two flaps are prepared as needed to cover the surfaces between the freshened bones. These flaps are fashioned with pedicles directed distally and consist of fascia and fat dissected from adjacent muscles. Large arms, as in the case of Miss H. C., with abundant soft tissues, give large flaps and insure best results in elbow arthroplasties.

The flap or flaps are drawn between the bones, and the edges sutured with chromic catgut to adjacent connective tissues about the condyles. The ulna is now placed in a new bed where it will not be compressed by scar tissue. The skin incisions are closed without drainage. The forearm is then flexed to a right angle and there held by light posterior cast or wire gauze cage for three or four weeks. After this time active and passive movements are begun.

The operative procedures require time and should not be hastened. Careful attention to details is essential to good results.

AUDITOR'S REPORT, 1915.

March 7, 1916.

Medical Society of the State of California,
San Francisco, Cal.

Gentlemen:—We have audited the accounts of the Medical Society of the State of California for the year 1915, and we annex hereto Analysis of Cash Receipts and Cash Disbursements for the year, showing totals by months.

In making the audit, we have accepted the amounts entered in the Cash Book as receipts as correct. The total amount entered therein we found had been duly deposited with the Union Trust Company of San Francisco.

The balance with the Union Trust Company of San Francisco at December 31, 1915, amounting to \$1,007.29, has been verified. The volume of bank transactions for the year was as follows:

January 1, 1915—Balance.....\$ 823.26
Deposited during 1915, as per statement
of Cash Receipts..... 24,631.81

—————
\$25,455.07

Less checks drawn during 1915, as per
statement of Cash Disbursements.... 24,672.78

—————
\$ 782.29

Add checks unpaid at December 31, 1915

No. 1578\$ 65.00
1617 60.00
1618 100.00
————— 225.00

Balance with Union Trust Company of
San Francisco, December 31, 1915... \$1,007.29

The financial position of the Society, as at December 31, 1915, was as follows:

ASSETS.

Cash:

Union Trust Company of San
Francisco\$ 782.29
On hand..... 213.00
—————\$ 995.29

Accounts Receivable:

Journal Advertising, as per
statement annexed..... 960.86
Stock of paper in printer's hands,
as reported by J. H. Barry &
Co. 512.80
Furniture and fixtures at De-
cember 31, 1914.....\$ 750.00
Additions during 1915..... 222.60

—————
\$972.60

Less Depreciation, 10% on
\$750.00 75.00
————— 897.60

—————
\$3,366.55

LIABILITIES.

Loan by Union Trust Company
of San Francisco..... \$1,500.00

Medical Defense:

W. W. Kaufman (1/2 retainer
for 1915).....\$ 500.00
W. W. Kaufman, Attorney
Fees 1,224.00
H. T. Morrow, Attorney
Fees 759.55
————— 2,483.55

J. H. Barry & Co..... 351.00
Photo Engraving Co..... 11.65
Pacific Coast Paper Co..... 656.87
Yawman & Erbe..... 17.15
H. S. Crocker Co. (Steel Safe) 131.50
H. S. Crocker Co. (Addressing)
San Francisco County Medical
Society, January, 1916, rent
paid in Dec., 1915..... 15.00
————— 1,189.94

—————
Net Deficiency.....\$1,806.94

Accounts Receivable. The following accounts outstanding on December 31, 1915, have not been included in statement of Accounts Receivable, as it is understood that they are irrecoverable:

D. M. Collwin.....\$ 3.00
J. W. Nevins..... 3.00
Edw. Yale..... 6.00
Phil. Rohtjen..... 37.50
Yosemite Tax Co..... 25.00
—————\$74.50

SUMMARY OF CASH RECEIPTS.

Journal Advertising.....\$ 6,836.73
Journal Subscriptions..... 92.60
County Societies..... 15,342.00
Register Advertising..... 512.50
Register Sales..... 95.00
Rent Received..... 180.00
Sundry Receipts (including
loan of \$1,500.00 from
Union Trust Company in
October and \$49.57 paid
us by the Treasurer as in-
terest on our balances.... 1,585.98
—————\$24,644.81

SUMMARY OF CASH DISBURSEMENTS.

Journal Expense.....\$4,250.13
Register Expense..... 1,225.00
General Expense..... 1,772.44
Office Expense..... 935.68
Salaries 7,425.50
Medical Defense..... 9,064.03
—————\$24,672.78

(Signed) McLAREN, GOODE & Co.,
Certified Public Accountants.

PROGRAM

CALIFORNIA STATE MEDICAL SOCIETY

APRIL 18, 19, 20, 1916.

As the program is crowded, the papers will be limited absolutely to the time specified, otherwise there will be no time left for discussions.

Discussions are limited to **five minutes** for each member taking part.

Tuesday Morning.

General session, etc. (The report on Medical Education and Medical Licensure will be presented for general discussion.)

Tuesday Afternoon.

1. Symposium on "Exophthalmic Goitre."
 - a. "Unusual Clinical Aspects of Exophthalmic Goitre" (10 min.).
George D. Barnett, San Francisco.
 - b. "Symptomatology" (10 min.).
Henry Lissner, Los Angeles.
Discussion opened by F. Birch, San Francisco.
 - c. "Surgery of Exophthalmic Goitre" (10 min.).
E. C. Moore, Los Angeles.
Discussion opened by Wallace I. Terry, San Francisco.
 - d. "Medical Treatment of Exophthalmic Goitre" (10 min.).
Donald Frick, Los Angeles.
Discussion opened by W. F. Cheney, San Francisco.

2. "The Gait in Nervous Diseases" (Illustrated by motion pictures). (15 min.)
Walter Schaller, San Francisco.

Wednesday Morning.

1. "Gall Bladder Disease. Six Cases" (15 min.).
Harold Brunn, San Francisco.
Discussion opened by Alanson Weeks, San Francisco.
2. "Selected Points in Gastrointestinal Diagnosis" (Lantern slides). (15 min.)
C. W. Lippman, San Francisco.
Discussion opened by Rexwald Brown, Santa Barbara.
3. "The Economic Importance of the Well Poised Person" (15 min.).
H. L. Langnecker, San Francisco.
Discussion opened by Leonard W. Ely and J. T. Watkins, San Francisco.
4. "American Red Cross Work in Belgrade" (20 min.).
Shadworth Beasley, San Francisco.
Discussion to be opened by H. A. Rosenkranz, Los Angeles.
5. "Operative Treatment of Procidemia" (15 min.).
F. W. Lynch, San Francisco.
Discussion to be opened by A. B. Spalding and C. J. Teass, San Francisco.

Wednesday Afternoon.

Sessions of G. U. and Eye, Ear, Nose and Throat and the Tuberculosis Society.

Thursday Morning.

1. "Multiple Primary Tumors with Case Reports" (10 min.).
James C. Blair, San Jose.
Discussion opened by Stanley Stillman, San Francisco.
2. "Apocodine—A New Laxative with Particular Advantages" (10 min.).
W. C. Alvarez, San Francisco.
3. "Trifacial Neuralgia" (10 min.).
J. M. Wolfsohn, San Francisco.
Discussion opened by T. G. Inman, San Francisco.
4. "Blood Sugar Tolerance" (10 min.).
R. S. Cummings and George Piness, Los Angeles.

5. "Treatment of Syphilis" (20 min.).
Granville MacGowan, Los Angeles.
Discussion opened by A. B. Grosse, San Francisco.

6. "Mercurialized Serum Injections in Syphilitic Nervous Diseases" (10 min.).
Henry Mehrtens, San Francisco.
Discussion opened by Thomas C. Little, San Diego.

Thursday Afternoon.

1. "Leucopenia—Its Significance" (10 min.).
Joseph H. Catton, San Francisco.
Discussion opened by George E. Ebright, San Francisco.
 2. "Symposium on Focal Infections."
 - a. "Focal Infections in General" (10 min.).
William D. Whitten, San Diego.
 - b. "Endocarditis in Childhood" (10 min.).
E. C. Fleischner, San Francisco.
 - c. "Intestinal Involvement" (10 min.).
Fred Gundrum, Sacramento.
 - d. "Focal Infection from a Urological Standpoint" (10 min.).
Ralph Williams, Los Angeles.
 - e. "Mouth" (10 min.).
James G. Sharp, San Francisco.
 - f. "Tonsils" (10 min.).
John MacKenzie Brown, Los Angeles.
- General discussion on "Focal Infections" to be opened by Emil Schmoll, San Francisco.

**GENITRO-URINARY SECTION OF THE
STATE MEDICAL SOCIETY AND WEST-
ERN BRANCH OF THE AMERICAN
UROLOGICAL ASSOCIATION.**

Wednesday Morning—9:30.

1. "Fibrosis of the Bladder Neck as a Cause of Urinary Frequency."
H. Welland Howard
2. "Ureteral Fistulae."
Charles D. Lockwood.
3. "Radiographic Diagnosis of Hydronephrosis" (with lantern slide demonstrations).
Martin Krotoszyner.
4. "Symptoms, Diagnosis and Pathological Anatomy of Renal Tuberculosis."
Leon J. Roth.
5. "A Report of Fifty Cases of Tuberculosis of the Kidney and Bladder Clinically Cured Without Operation."
F. S. Dillingham.
6. "The Technic of Nephrectomy for Tuberculous Kidney."
H. A. Rosenkranz.

GENERAL SESSION.**Wednesday Afternoon—1:30.****Symposium on Tumors of the Kidney.**

1. Tumors of the Kidney.
Albert Soiland.
Discussion opened by Howard Ruggles.
2. Tumors of the Kidney.
Langley Porter.
Discussion opened by P. V. K. Johnson.
3. Tumors of the Kidney.
Herbert C. Moffitt.
Discussion opened by Joseph M. King.
4. Tumors of the Kidney.
Stanley Stillman.
Discussion opened by Guy Cochran.
5. Tumors of the Kidney.
Frank Hinman.
Discussion opened by R. L. Rigdon.
6. "Modern Diagnosis and Treatment of Urinary Lithiasis."
William E. Stevens.

Thursday Morning—9:30.

1. "A Preliminary Report on the Simultaneous Use of Indigo-Carmine and Phenolsulphonephthalein Tests in Surgical Diseases of the Kidney."
Anders Peterson.

2. "The Diagnosis and Treatment of Contracture of Vesical Neck."
Arthur B. Cecil.
3. "Prostatectomy—a Clinical Study of Fifty Cases with Particular Reference to Post-operative Treatment."
W. B. Dakin.
4. "The Value of Fuchsin in Urology."
Victor G. Vecki.
5. "A Method of Re-establishing the Patency of the Ureter in Pyonephrosis."
M. Molony.

EYE, EAR, NOSE AND THROAT SECTION.

As the program is crowded the papers will be limited to ten minutes, otherwise there will be no time left for discussions. Discussions are limited to five minutes for each member taking part.

Tuesday Afternoon.

1. "Effective Treatment of Trachoma."
Dr. A. S. Green, San Francisco.
Discussion opened by Dr. Hugo A. Kiefer, Los Angeles.
2. "The Modern Treatment of Iritis."
Dr. M. W. Fredrick, San Francisco.
Discussion opened by Dr. Alex. Galbraith, Oakland.
3. "The Bacteriology of Sinus Disease."
Dr. John J. Kyle, Los Angeles.
Discussion opened by Dr. Adolph B. Baer, San Francisco.
4. "Additional Notes on the Etiology of Oozena."
Dr. Henry Horn, San Francisco.
Discussion opened by Dr. E. A. Victors, San Francisco.

Wednesday Morning

1. "The Surgical Treatment of Squint."
Dr. Vard H. Hulen, San Francisco.
Discussion opened by Dr. Thos. J. McCoy, Los Angeles.
2. "My Non-Suture Method of Ocular Tendon Shortening."
Dr. Roderick O'Connor, Oakland.
Discussion opened by Dr. E. W. Alexander, San Francisco.
3. "Eye Symptoms of Tabes."
Dr. Wm. F. Blake, San Francisco.
Discussion opened by Dr. M. W. Fredrick, San Francisco.
4. "Pure Carbolic Treatment of Selected Cases of Chronic Suppurative Aural Inflammation."
Dr. G. W. Walker, Stockton.
Discussion opened by Dr. Dwight H. Trowbridge, Fresno.
5. "The Sluder Method of Tonsillectomy."
Dr. F. M. Shook, Oakland.

Wednesday Afternoon.**Symposium on Meningitis.**

1. "Meningitis of Nasal Origin."
Dr. Havard Y. McNaught, San Francisco.
Discussion opened by Dr. P. A. Jordan, San Jose.
2. "Meningitis of Otic Origin."
Dr. E. C. Sewall, San Francisco.
Discussion opened by Dr. J. Mackenzie Brown, Los Angeles.
3. "Tubercular Meningitis."
Dr. Wm. B. Lucas, San Francisco.
Discussion opened by Dr. H. S. Moore, San Francisco.
4. "Eye Findings in Meningitis."
Dr. W. Scott Franklin, San Francisco.
5. "Prospects of Surgical Treatment of Meningitis."
Dr. H. C. Naffziger, San Francisco.
Discussion opened by Dr. S. Hyman, San Francisco.

Thursday Morning.

1. "Present Legislation and Proposed Legislation for the Prevention of Blindness."
Dr. Edw. F. Glaser, San Francisco.
Discussion opened by Dr. Wm. Ellery Briggs, Sacramento.
2. "Glaucoma, a Critical Review of Present Methods of Treatment."
Dr. Hans Barkan, San Francisco.
Discussion opened by Dr. W. Scott Franklin, San Francisco.
3. "The Removal of Foreign Bodies From the Bronchi and Oesophagus."
Dr. H. B. Graham, San Francisco.
Discussion opened by Dr. Geo. W. McCoy, Los Angeles.
4. "Infections of the Bloodstream."
Dr. Cullen F. Welty, San Francisco.
Discussion opened by Dr. Benj. F. Church, Redlands.

PROGRAM.

**ANNUAL MEETING OF THE CALIFORNIA STATE
MEDICAL SOCIETY
and the
CALIFORNIA ASSOCIATION FOR THE STUDY AND
PREVENTION OF TUBERCULOSIS.**

Fresno, Cal., April 19, 1916.

Forenoon—9:00.

Reports from Clinics.

Reports of Officers:

Address by President, Dr. C. C. Browning, Los Angeles.
Report, Executive Secretary, Miss E. L. M. Tate, Sacramento.

Report, Secretary, Dr. George E. Tucker, Riverside.

Reports of Local Associations.

Use of Vaccine in Clinics, Dr. Leon Shulman, Los Angeles.

Discussion led by Dr. F. M. Pottenger, Monrovia.

Open-Air Schools, Edward Hyatt, State Superintendent of Public Instruction, Sacramento.

Health Work Among the Mexicans in Los Angeles, Dr. J. L. Pomeroy, Los Angeles.

Election of Officers.

Afternoon—2:00.

Tuberculosis in Children, Dr. Langley Porter, San Francisco.

Discussion led by Drs. Mace and Lucas, San Francisco.

Some Phases of Dentistry and Tuberculosis, Dr. Julio Endleman, Los Angeles.

Discussion led by Dr. J. W. Reeves, Los Angeles.

Clinical Observations on 100 Cases of Artificial Pneumothorax, Dr. Ralph Matson, Portland, Oregon.

Discussion led by Dr. E. von Adelung, Oakland.

The Psychotherapy of Pulmonary Tuberculosis, Dr. Henry M. Neale, Upper Lehigh, Pa.

Discussion led by Dr. Ross Moore, Los Angeles.

Differential Diagnosis of Abdominal Tuberculosis, Dr. G. E. Ebright, San Francisco.

Discussion led by ———

Bone Transplantation in Vertebral Tuberculosis. Illustrated by lantern slides, Dr. Ellis Jones, Los Angeles.

Discussion led by Dr. Geo. McChesney, San Francisco.

Present Status of the Treatment of Tuberculosis of the Bone, Dr. Arthur L. Fisher, San Francisco.

Discussion led by Dr. James Watkins, San Francisco.

MEDICAL PRACTICE ACTS OF CALIFORNIA

TABLE FOR CONSIDERATION OF RECIPROCITY APPLICATIONS FROM OTHER STATES

	1 MEDICINE & SURGERY	2 OSTEOPATHY	3 DRUGLESS	4 CHIROPODY
Prior to August 1, 1901	Oral. See Chapter 354, Statutes 1913	Practice not legalized	Practice not legalized	Practice not legalized
A Subsequent to August 1, 1901, and prior to March 4, 1907	1a Direct reciprocity on equal standards; otherwise oral examination	2a Direct reciprocity on equal standards	3a Practice not legalized as "Drugless"	4a Practice not legalized
B Subsequent to March 4, 1907, and prior to August 10, 1913	1b Direct reciprocity on equal standards; otherwise written examination	2b Direct reciprocity on equal standards	3b Practice not legalized as "Drugless"	4b Practice not legalized
C Subsequent to August 10, 1913, and prior to August 8, 1915	1c Direct reciprocity on equal standards; otherwise written examination	2c Physician and surgeon or druggist practitioner certificate — depending on standard of state and qualification of applicant	3c Direct reciprocity on equal standards	4c Practice not legalized
D Subsequent to August 8, 1915	1d Direct reciprocity on equal standards; otherwise written examination	2d Physician and surgeon or druggist practitioner certificate — depending on standard of state and qualification of applicant	3d Direct reciprocity on equal standards; otherwise by written examination	4d Direct reciprocity on equal standards; otherwise by written examination
E	1e	2e	3e	4e

1. A. See chapter 354, Statutes of 1913
 - B. See chapter 354, Statutes of 1913
 - C. See chapter 354, Statutes of 1913
 - D. See chapter 354, Statutes of 1913
 - E. See chapter 105, Statutes of 1915
- } The Board has adopted the policy of granting a written examination to licentiates from other states whenever the California Board determines that the standard maintained by such state at the date of issuance of the certificate used as the basis of the application, was lower than that maintained by the California law on the same date.
2. A. Certificates to practice Osteopathy were not issued in California prior to March 9, 1901.
 - B. See chapter 105, Statutes 1915.
 - C. Applicants presenting Osteopathic certificates issued between March 4, 1907, and August 10, 1913, by a state maintaining a lower standard than California, may take the written examination for a drugless practitioner certificate provided such applicant fulfils the provisions of sections 9 and 10, chapter 354, Statutes of 1913, as amended by chapter 105 of the Statutes of 1915.
 - D.
 - E. Certificates to practice Osteopathy have not been issued in California since August 10, 1913—repeal of chapter 212, Statutes 1907, and amendments thereto. See chapter 354, Statutes 1913. Consequently, Osteopaths must qualify for a physicians and surgeons or drugless practitioner certificate in accordance with the credentials submitted from such other state and the Board's classification thereof.
3. A. Not recognized.
 - B. Not recognized.
 - C. Not recognized.
 - D. See chapter 354, Statutes 1913. For reciprocity exactions see chapter 105, Statutes 1915.
 - E. Must meet the requirements of sections 9 and 10, Statutes 1915, for drugless practitioner certificate.
4. A-B-C-D. See chapter 105, Statutes 1915.
 - E. See chapter 105, Statutes 1915. An applicant practicing in California for one (1) year prior to July 1, 1915, who files an application within 90 days subsequent to August 8, 1915, and makes proof of competency, good moral character, etc., may be granted a certificate on credentials (registration).

LEGISLATIVE ENACTMENTS IN CALIFORNIA PERTAINING TO THE HEALING ART

	Statutes	Chapter	Page	Approved	In effect
Medicine and Surgery	1876	518	792	April 3, '76	April 3, '76
Medicine and Surgery	1878	576	918	April 3, '78	April 3, '78
Medicine and Surgery	1901	51	56	Feb. 27, '01	Aug. 1, '01
Osteopathy	1901	99	113	March 9, '01	March 9, '01
Medicine and Surgery and Osteopathy	1907	212	252	March 14, '07	May 1, '07
Naturopathy	1909	276	418	March 19, '09	March 19, '09
Medicine and Surgery and Osteopathy	1911	745	1449	May 1, '11	May 1, '11
Medicine and Surgery and Osteopathy	1911	740	1437	May 1, '11	July 1, '11
Medicine and Surgery and Drugless	1913	354	722	June 2, '13	Aug. 10, '13
Medicine and Surgery Drugless and Chiroprady	1915	105	184	April 24, '15	Aug. 8, '15

THE URGENT NEED FOR A MORE ADEQUATE TREATMENT OF SYPHILIS.*

By ALFRED R. ROGERS, M. D., Los Angeles.

At the 1914 meeting of the A. M. A., during the symposium on syphilis several of the participants, men prominent in the urological branch of the medical profession made the rather startling assertion that 99 per cent. of the practitioners of medicine in the United States did not know how to properly treat syphilis. Of course such a broad statement is not justified by the facts, for the knowledge of the therapy of this disease is not by any means monopolized by one per cent. of the profession. Furthermore, the statement was inaccurate, perhaps, in that it implied that the other one per cent did know how. If the gentlemen had said that 100 per cent. of the medical profession in the civilized world, including themselves, did not know how to treat syphilis, their assertion would have been no less startling; but I am convinced that it would have been nearer the whole truth.

We know a great deal about the diagnosis and treatment of this disease which lays its blight annually upon thousands of men, women and children. We know much more to-day than we did yesterday, and will know more to-morrow than we do to-day, but even with the remarkable advances that have been made in the last decade in methods of diagnosis and the discovery of new remedies which, if they do not cure, certainly perform miracles in causing the disappearance of symptoms, can any man say that he positively knows the proper, most efficient and adequate method of applying these remedies to the end that syphilis be permanently cured in the shortest possible time?

By perusing the current voluminous literature on this subject, we learn that there are several schools of treatment, each having among its adherents men of unquestionable ability as syphilologists, and this fact is a frank admission on our part that we are still feeling our way—not only as to the best remedy to apply, but particularly as to the best method and dosage to be used in applying them, and there is still a wide variance of opinion as to the period which must elapse before a permanent cure is effected. For example, many eminent physicians, particularly in Germany, use the arsenic preparations to the exclusion of all other drugs. There are a few who, having tried the salvarsan treatment have discarded it and pin their faith entirely to the tried and true mercurials. For the nonce the most popular treatment is a combination of mercury and arsenic, but so numerous and varied are the methods of combining them, both as to proportions and dosage, and so numerous and varied are the results published that surely it would be presumption for any man to say that his was the last word that could be said on this subject. It is with no pretense of saying the last word, but rather with an effort to bring a semblance of order

out of more or less chaos that this paper is presented.

We know much about syphilis; we know the causative agent; we know its varied and complicated pathology; we know how to recognize most of its clinical symptoms and to differentiate them; we know how to recognize and interpret the symptom known as the Wassermann reaction and lately have learned that too much dependence cannot be placed upon that symptom alone. And we know that with the remedies at our disposal, imperfect though the future may demonstrate them to be, syphilis is a curable disease. With all this knowledge at hand that so large a percentage of luetics are not cured is probably as great a stigma as rests upon the medical profession. If syphilis is curable, why are insane asylums filled as they are to-day with the victims of cerebral syphilis and why are thousands dying annually from the late destructive lesions of the disease? It is true that it is extremely difficult to convince the ordinary luetic that it is necessary to persevere in giving him poisonous drugs after all objective manifestations of the disease are absent. To him this savors too much of commercializing his affliction. This is our best alibi in defending ourselves against the charge of responsibility for the great prevalence of uncured syphilis. The widespread publicity given to salvarsan by the lay press whereby the public was led to believe that at last a remedy had been discovered which at one fell swoop would thoroughly eradicate syphilis from the infected organism and the manner in which unscrupulous men masquerading under the name of "physicians" fostered and are still fostering that delusion can have but one result. The number of men and women, who have taken one or more salvarsan injections and gone forth secure in the belief that they are permanently cured is legion. Many of them will not believe when told that more recent investigations have proven their treatment to have been inadequate. It cannot be doubted then that because of such pernicious exploitation of this splendid addition to our armamentarium the next generation will witness such a crop of cerebral, spinal and visceral luetics as was never known before. But even with these alibis the honest, reputable, conscientious physician is not blameless. It is a far cry from the charlatan who assures his victim that if he can mortgage the little vine-clad cottage for \$100, or \$500, so that he can have one or two salvarsan treatments that he will be permanently cured, to the physician who prescribes proto iodid pills, alternating with small doses of K. I., and advises the patient that he had better keep it up for a year or two, to make sure of a complete cure, but the net result is the same. Neither method is efficient or adequate, as has been proven conclusively by the experience of any physician who has watched the cases through to the end.

Syphilis when contracted by the ordinary man or woman, or when inherited from syphilitic parents, is more than a disease; it is a tragedy. Whether the infection comes innocently or following an infraction of the moral law, the sense of shame and humiliation, of the loathsomeness of his condition, of the utter uselessness of any effort to

* Read before the Los Angeles County Medical Society, November 4, 1915.

be as other men, makes the suffering mostly mental, as physical pain is, except in spinal involvement, generally entirely absent. It is a serious affair, both to themselves and to those with whom they associate, but it has this one saving grace: Acquired syphilis unless neglected is neither fatal nor does it seriously interfere with its victim's usual activities. In an economic sense it is bad enough, but it is much less serious than are many less dreaded afflictions to which humanity is heir. One of its greatest horrors to the intelligent lay mind is the feeling that he almost never knows when he is cured. It is the hope of all and the belief of many that out of all the exhaustive studies that are being made, before long some means will be devised whereby a test can be applied that will demonstrate once and for all that a permanent cure has been effected, but for the present there are but two ways by which we may be sure of the success or failure of our treatment. One is to watchfully wait out the years in the hope that our medication has been permanently successful; the other is to have the patient become reinfected. Neither method is satisfactory from the standpoint of patient or medical attendant, but it is all we have on which to base a statement of complete cure.

What can we as physicians do to force these patients, who are so numerous and who constitute so great a menace to the public health and to the unborn generations, to continue their treatment? We might with reason and consistency advocate a statute, providing that they must be registered at some place inaccessible to the public and that they be in the position of paroled prisoners, obliged to report to the health authorities once a year or oftener and show that they have been properly treated or at least under competent observation. There are many laws in existence now much more paternalistic and which to a much greater extent interfere with personal liberty than would this, but the attitude of the lay mind on the subject of government regulation of venereal disease is such that this generation at least cannot hope for such legislation. It is up to us then to bring to bear upon these patients every influence at our command to protect posterity and to insure the victims themselves against the terrible end results of their own indifference and neglect. In our efforts in this direction lie the urgent need of a more adequate treatment of syphilis.

The first thing necessary is to thoroughly convince the patient of the seriousness of his condition and not wait for him to be convinced by the onset of visceral lesions. A confidential talk setting forth the gravity of the disease and the probable course of treatment necessary for permanent relief will do much, but I find it more convincing to give to each patient, both in private and dispensary practice, a printed sheet which I word as follows:

"You are afflicted with syphilis. The disease now shows only externally, but it is in your blood and will be in your blood for some time after all external visible symptoms are gone. You cannot

be cured in one week, one month or one year, nor is there any medicine known, one or two doses of which will cure you. The disease can be cured completely, but only if you place yourself under the care of a competent, conscientious physician and follow his directions to the smallest letter. Make up your mind to be under a physician's observation for not less than five years. This does not mean that you will be under treatment for five years, perhaps not one-half that time, perhaps none after the first two years, but keep under the physician's observation and let him decide whether or not you need treatment. Do not allow yourself to be treated or advised by advertising doctors or quacks. They are rarely competent and are never honest. The disease is dangerous to your health only if you neglect it. If properly cared for, neither the disease nor the treatment instituted for its relief will cause you any serious inconvenience or detention from work. If neglected, however, it will in later years attack your vital organs, heart, arteries, kidneys, spinal cord and brain, rendering you a helpless invalid or a victim of insanity. To insure you against such a fate you will have to be treated at times when there are no visible evidences of the disease and when it seems to you unnecessary and foolish. You must not marry until four years have elapsed after the first appearance of the disease. If you do, you will endanger your wife and your offspring. After that, if you have been properly treated, you can marry and beget children with safety to both. If you have occasion to transfer your case from the care of one physician to another, be sure to have the doctor who has treated you give you a complete history of your case since he took charge of it; the symptoms including result of blood test, treatment and results of treatment on the symptoms. Present this record to your new physician. Your infection can be transmitted to others through other means than sexual intercourse. Therefore, for the protection of the public, refrain from kissing anybody and do not use public drinking vessels, cigar clippers, towels, etc., from which others might become infected. By paying due and strict attention to these instructions you can not only protect others with whom you are unavoidably associated, but you can conceal the fact that you have this disease and can assure yourself not only of freedom from the evil effects of the early symptoms, but of future health and usefulness."

On the reverse side of this page of instructions can be printed blanks to be filled in briefly by the attending physician, showing the course of the disease with all its manifestations; the treatment instituted, with dates and dosage. This data to be taken from the records which all painstaking physicians keep. The value of such a record to the doctor who falls heir to the case in its later years cannot be overestimated.

I look upon a luetic patient as in some sense a ward of mine, for whom, to a certain extent, I am responsible. If he does not appear in due time for treatment or examination, I notify him of that fact by mail and he usually comes, but always with the story that inasmuch as he had been entirely free

from symptoms, he considered further treatment unnecessary. Right here and now I wish to enter my protest against the symptomatic treatment of syphilis. The physician who treats lues only when there are clinical or serological evidences present is as much at fault as he who administers copious doses of morphia and thereby masks the symptoms of pneumonia or appendicitis. In either case he is deceiving both himself and his patient into a false sense of security.

Having if possible gotten the patient under control and presuming that he will entrust his case to you for at least four or five years, what constitutes an adequate therapy of syphilis? It is unfortunate that the treatment is not better standardized, that there is still some disagreement among our best syphilographers, but yet out of all the heterogeneous literature of 1915 there is, if we eliminate the extravagant claims of a few ultra-enthusiasts, a fairly unanimous opinion upon this subject. Undoubtedly there are well authenticated instances of cures following a few months of intensive treatment, but in reading of these cases and knowing the possibility of error in diagnosis and the still greater possibility that sufficient time has not elapsed since the so-called cure to either affirm or to deny the statement, I think it well to take all these reports with "a grain of salt." Knowing that the spirochetes even in the earliest stages of the infection have permeated every part of the body reached by the blood stream and that to eradicate them requires not only intensive but persistent treatment, and that neglecting to keep the system saturated with some spirocheticide for a prolonged period will almost inevitably result in relapses, our course is fairly plain. I believe that the dangers of over-dosage and over-saturation with mercury have been greatly overestimated. Our best known authors upon the subject seem to be afraid that somebody will be salivated. The maximum dosage of the different mercurial salts is usually given at what is actually the minimum dosage and far smaller than actual practice teaches us is correct. For example, we are advised to give succinimide of mercury intramuscularly in doses of from one-fifth to four-fifths grain, whereas one and one-fourth grains has been given intravenously with perfect safety and gratifying results. The salicylate is mentioned as the insoluble salt of choice with a maximum dosage of one and one-half grains. I have a patient weighing 145 pounds with late syphilis who has had three grains of salicylate intramuscularly every five days for twelve weeks with no untoward results either at the site of injection or elsewhere. A burly New York policeman was given weekly doses of five grains for ten weeks, and because this seemed inefficient, eight grains weekly were injected for five more weeks with no serious signs of mercurialism. Many of the symptoms usually ascribed to too much mercury are in reality due to too much syphilis and call for an increase rather than diminution in the dosage. The necessity for periods of cessation of treatment to allow the patient as we say to recuperate from the effects of medication is similarly

exaggerated. Too often these periods of intermission, designed to be of a few weeks' duration, are extended by the patient's indifference into months and years to his ultimate detriment. The better plan is to keep them coming at least once a week for a period of two years. Should it become necessary to lessen the dosage or even to cease entirely for a brief period, a placebo may be given, for only by seeing these patients at frequent intervals can the course of the disease be intelligently noted and the treatment intelligently administered.

Herein lies one great superiority of the intramuscular injection over all other methods of administering mercury. It compels regular visits to the doctor's office and enables him to grade his dosage as occasion demands. The inunction method is undoubtedly efficient and is the method of choice where the patient is unable to come to the office. It is the only way in which the drug can be self-administered with satisfactory results, but so few patients will do it properly that I have always found it unsatisfactory and difficult to control. Giving mercury by the mouth with a view of curing syphilis, whether in the form of protoiodide, biniodid, bichloride or what not, should, I think, be made a penal offense. In my experience the administration of mercury is best achieved by giving it in the form of deep intramuscular injections of the salicylate every five to ten days, in doses ranging from one grain to three or even more, as the exigencies of the case and the patient's tolerance demand. By constantly watching the mouth and urine it is a simple matter to avoid the slight danger of over-treatment. Mercury is rapidly eliminated from the system and there is no reason why a generous supply of it should not be coursing through the tissues of an individual afflicted with syphilis for practically the whole of the two-year period. The reason for choosing the salicylate in preference to calomel or gray oil is only that it is less painful. The thing that we are attempting to administer is metallic mercury, of which the salicylate has approximately 58 per cent., calomel 85 per cent., and gray oil 100 per cent. Therefore, as far as efficiency is concerned, there can be but little, if any, advantage to be gained by one over the other. The salicylate simply must be given in larger doses.

The advantage of the insoluble salts over the soluble ones is that in the former a depot is established which requires five to ten days for absorption, during which time the system is more or less continually saturated with the drug. The soluble salts are absorbed in toto immediately and are eliminated in a correspondingly short period. The continual presence of mercury in the blood stream in such quantity as to successfully keep up the fight against the invading organism is the end to be sought. Potassium iodide in the late stages is of use in promoting absorption of luetic deposits and for the relief of luetic headaches, but it must be borne in mind that it is in no degree a spirocheticide or an anti-syphilitic remedy.

There is a very wide divergence of opinion as to the amount of salvarsan it is best to give in connection with the prolonged course of mercury.

Probably we have never had a drug that has been so greatly abused and so unintelligently given, chiefly, I fear, for commercial reasons. My opinion is that its greatest usefulness is in the first six months after the infection, when in combination with mercury frequent intravenous injections of moderate amounts are given in an effort to overwhelm the invading organism before it can reach parts of the body inaccessible to any treatment. The drug is practically unobtainable now and yet I doubt if our therapy of syphilis is suffering greatly thereby. Now that we are placed in a position where mercury alone must be used, we have the opportunity to prove this: What salvarsan will do, mercury will do. What mercury will not do, salvarsan will not do. What salvarsan will not do, mercury will do.

Having persistently and intensively treated the disease for two years in a manner similar to that outlined above, the physician then may safely adopt a policy of watchful waiting for two or three years more. It is with extreme gratification that we can say that at least a majority of the cases will never show another symptom either clinical or serological. If they do, and some will, treatment more intensive, if possible, than that given before must be begun and prosecuted vigorously for at least another year. It is doubtful, however, if it is possible to ever get more than a symptomatic cure in a case that shows clinical symptoms after two years of adequate saturation with mercury and salvarsan.

In presenting to this Society this paper I assure you that I am fully aware of its shortcomings. I am aware that there comes to the syphilologist at times a case in which it seems that the luetic poison invades the whole body with such overwhelming virulence almost from its inception that our most active and persistent efforts will fail to stem its ravages to any appreciable extent. Fortunately these virulent cases constitute but a very small fractional per cent. of the total. It is also true that in spite of our most persistent efforts there will always be a liberal percentage of syphilitics who will refuse to be cured of their disease. We can reduce this number materially, however: First—By using greater frankness in telling an infected individual what the probable course of his disease will be, withholding nothing for fear of discouraging him. Second—By standardizing as much as possible our methods of treatment. Third—By abandoning the inadequate methods of treatment still more or less in vogue. Fourth—By treating everyone as a patient with a curable disease, which only needs persistence and determination on the part of patient and physician to yield happy and permanent results.

That there will be those who will develop late visceral lesions even after the above rigorous régime has been carried out I cannot safely deny. That a much greater percentage of successful results can be realized and that the stigma of incompetency quoted in the beginning of this paper can be removed by the adoption of a course similar to the above and the abandonment of the timidity and inefficiency which characterizes much of our present-day treatment, I thoroughly believe.

SOMETHING TO REMEMBER!

—

THE ADVERTISERS IN YOUR STATE JOURNAL OF MEDICINE

SOCIETY REPORTS

ALAMEDA COUNTY.

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, January 18, 1916. The minutes of the previous meeting were read and approved.

The following program was presented:

1. Case report, Dr. Daniel Crosby.
2. Syphilitic arthritis, Dr. Leonard Ely, San Francisco.
3. Fat embolism with report of a case, Dr. Robert T. Legge, U. of C.; pathological report by Dr. Granville Rusk, U. of C.

Dr. John Engs appeared before the Society and asked for its endorsement of the project to establish a branch of the American Red Cross in Oakland. On motion, this endorsement was given.

The Secretary read a set of resolutions passed by the Southern Medical Society of Texas asking for ample medical service in the increase to the U. S. Army proposed by the Administration. These resolutions were sent by the President of the State Medical Society, Dr. H. M. Sherman, with the request that we adopt similar ones. On motion, this was done and copies ordered sent to the Secretary of War and the California Senators and Representatives in Congress.

There being no further business the meeting adjourned.

ELMER E. BRINCKERHOFF, Secretary.

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, February 15, 1916.

The minutes of the previous meeting were read and approved.

The following program was then presented:

- I. Treatment of Syphilis of the Nervous System by Intra-Spinal Injections. Dr. Jau Don Ball.

Discussion by Drs. Clifford W. Mack and H. G. Thomas.

II. Papers by the Staff of the Bureau of Communicable Diseases, California State Board of Health:

1. Pasteurization of Milk Supplies as a Protection against Typhoid Fever. Drs. J. C. Geiger and F. L. Kelly. Discussion by Drs. T. C. McCleave, R. A. Archibald, J. J. Roadhouse, H. A. Makinson and W. H. Strickmann.
2. Plasmodium Malaria, Quartan; A Type new to California. Drs. J. C. Geiger and F. L. Kelly.
3. Diphtheria Carriers. Drs. J. C. Geiger and F. L. Kelly and V. M. Bathgate, M. S. Discussion by Dr. H. A. Makinson.

Miss Shuey appeared before the society on behalf of the Berkeley Dispensary, stating that they would provide a graduate nurse for moderate fees to do hourly nursing under the directions of a doctor. Dr. J. N. Force said that this was not a charity—that the service was expected to be self-supporting.

The secretary read a set of resolutions at the request of the Los Angeles County Medical Association, "Regarding Industrial Accident Fees." There being no objection the chair appointed Dr. L. P. Adams a committee of one to investigate the matter.

The president announced that the annual banquet of the association would be held March 9, 1916.

There being no further business the meeting adjourned.

ALVIN POWELL,
Secretary pro tem.

CALIFORNIA PEDIATRIC SOCIETY.

The next meeting of the California Pediatric Society (Northern Branch) will take place Tuesday, April 25, at 8:15, in the County Medical Assembly rooms in the Butler Building. This meeting will be a joint one with County Medical Society. The subject of discussion will be "The Defective Child." It is hoped that every one interested in this interesting question will make an especial effort to be present.

The program is as follows:

1. The Problem of the Defective Child (with lantern slides). Alexander Johnson of the Vineland Institute for Feeble-minded, Vineland, New Jersey.
2. Opening Discussion. Dr. Terman, Stanford University.
3. Discussion from Standpoint Juvenile Court. Dr. Bridgman.

GEORGE D. LYMAN, Secretary-Treasurer.

HUMBOLDT COUNTY.

I herewith send in to the State Society a list of the newly elected officers as elected at the regular meeting of the Humboldt County Medical Society on January 18, 1916.

President, Francis R. Horel; vice-president, Benj. M. Marshall; secretary, Laurence A. Wing; treasurer, Louis P. Dorais.

We held a very pleasant meeting, having a banquet and discussion of the milk problem as in Humboldt County. I hope to get all the members to stay with us and have tried to get in several new members.

LAURENCE A. WING, Secretary.

FRESNO COUNTY.

The regular March meeting of the Fresno County Medical Society was held in the offices of Drs. Kjaerbye and Walker on the evening of March 7, President Willson presiding. Present: Drs. Aiken, Collins, Jorgensen, Ehlers, Morrison, Hayden,

Mitchell, Barr, Sweeney, Long, S. M. Kjaerbye, Gillespie, Montgomery, Nicholson, Jones, Peterson, Walker, Miller, Cross, Boyd, Willson, Hare, Couey, Trowbridge, and Sweet. Minutes of previous meeting read and approved.

The application of Dr. Wallace B. Hardie of Del Rey, was reported as having been approved by the State Secretary, and Dr. Hardie was accordingly elected to membership in the Society.

The applications of Dr. Georgia Thompson of Fresno, and Dr. Henry Ehlers of Fowler were read before being forwarded to the State Secretary.

Mr. N. R. Cooper of the Fresno Convention Committee was present to offer co-operation in any possible way in making the meeting of the State Society to be held in Fresno next April a success.

It was moved, seconded, and carried that the Society approve the action of the Board of Governors at a special meeting held on February 22nd, 1916, together with the members of the Fresno City Board of Health. This action consisted in the endorsement by these two bodies of a proposal to establish a Clinic for Tuberculosis Cases under the direction of the City Board of Health with the understanding that the medical staff of the clinic should be elected by the County Medical Society.

It was decided by the Society that two members should be elected to have charge of the clinic for the year 1916. Dr. Kenneth J. Staniford and Dr. Clifford D. Sweet were nominated and then elected to take charge of the work.

It was moved, seconded, and carried that the Society give its official moral and physical support to the City Health Officer, Dr. A. H. Sweeney, for the proposed "clean-up day," April 1.

A paper on "Pyelitis in Children" was read by Dr. Clifford D. Sweet, and discussed by Drs. Hayden, Mitchell, Kjaerbye, Barr, Montgomery, Walker, and Cross.

After the usual social hour and refreshments the Society adjourned to meet in April with Drs. Willson, Mathewson and Cowan.

KENNETH J. STANIFORD, Secretary.

MARIN COUNTY.

The regular monthly meeting of the Marin County Medical Society was held at the home of Dr. H. O. Hund, Winship Park, Ross, Calif., on February 10, 1916, at 8 p. m.

Subject: Syphilis of the Nervous System, Dr. T. G. Inman. Introduction to discussion on Surgery of the Stomach, Histology, Dr. E. V. Knapp. Discussion on Surgery of Stomach, Dr. F. W. Birch.

All the talks were illustrated by lantern slides, by which the points under discussion were brought out very distinctly.

There were eighteen present who enjoyed the social hour which followed.

The regular monthly meeting of the Marin County Medical Society was held at the home of Dr. W. F. Jones, 508 Mission street, San Rafael, Thursday evening, March 9, 1916, at 8 p. m.

Subject: "Unusual Inflammations in the Abdominal Tract." Speaker, Dr. Phillip King Brown. Illustrated by lantern slides of X-ray plates.

Respectfully yours,

O. P. STOWE, Secretary.

SAN JOAQUIN COUNTY.

The first regular meeting of the San Joaquin County Medical Society for the year 1916 was held at the residence of Dr. W. J. Young, Friday evening, January 28. The following members were present: Drs. W. J. Young, F. P. Clark, R. T. McGurk, B. J. Powell, H. Smythe, C. F. English, H. J. Bolinger, J. D. Dameron, R. R. Hammond,

L. Dozier, L. R. Johnson, J. V. Craviotto, R. B. Knight and D. R. Powell with Dr. McNeil of Stockton and Dr. Emmet Rixford of San Francisco as guests.

Dr. Emmet Rixford presented the paper of the evening on the mechanism of fractures, discussing in particular fractures about the elbow.

At the close of the paper, the members adjourned to partake of a delightful social repast.

The regular monthly meeting of the San Joaquin County Medical Society was held at the offices of Drs. Barton J. and Dewey R. Powell Friday evening, February 25. Those present were: Drs. F. P. Clark, E. E. Endicott, L. Dozier, J. T. Davison, H. J. Bolinger, R. T. McGurk, C. R. Harry, C. F. English, W. J. Young, W. F. Priestly, Mary Taylor, E. A. Arthur, J. D. Dameron, Hudson Smythe, I. S. Zeimer, R. B. Knight, H. E. Sanderson, D. R. Powell, and B. J. Powell, with Dr. Philip Mills Jones, Secretary of the State Society, as guest.

Dr. Jones gave a very interesting explanation of the history of medical legislation in California, particularly during the recent period of unrest, and as he has been in intimate touch with this work for some years, he was in a position to speak not only interestingly but authoritatively. After a general discussion, in which many of the members asked questions of Dr. Jones, which were courteously answered, the meeting adjourned to the Hotel Clark where a social hour was enjoyed.

DEWEY R. POWELL, Secretary.

SACRAMENTO COUNTY.

The regular January meeting of the Sacramento Society for Medical Improvement was called to order by Dr. J. H. Parkinson, at the Hotel Sacramento, at 8:45 p. m. January 18, 1916.

Thirty members were present. Minutes read and approved.

Report of cases:

(1) Dr. S. E. Simmons reported a case of cholelithiasis with pancreatic cyst developing after the operation for stones.

(2) Dr. G. A. White reported a case of dumb-bell-shaped gall stones, crushing of which was necessary for removal.

(3) Dr. H. D. Barnard reported a case of atresia of vagina.

(4) Dr. W. A. Beattie reported a case of Reynaud's disease.

(5) Dr. E. T. Rulison reported a case of toxemia of pregnancy treated with serum from a normally pregnant patient.

The paper of the evening, "High Caloric Diet in Children in Typhoid Fever," read by Dr. H. H. Yerington of San Francisco. Discussed by Drs. S. E. Simmons, J. J. James, E. W. Twitchell, L. G. Reynolds, E. Pitts, G. A. White, A. B. Diepenbrock, W. A. Beattie, E. T. Rulison, F. Grazer, E. C. Turner, S. J. Well, T. J. Cox, F. F. Gundrum, J. H. Parkinson. Discussion closed by Dr. Yerington.

The Secretary then read the minutes of the meeting of April, 1868, upon which date a paper upon typhoid was read.

Report of Board of Directors read.

Letter from Dr. Sherman re resolutions from Dallas, Texas, read. Moved by Dr. Hanna, seconded by Dr. Dillon and carried that these resolutions be adopted and copied and sent to the Third District of California Representative in Congress.

Vote of thanks extended to Dr. Yerington.

Adjourned at 11 p. m.

F. F. GUNDRUM, Secretary.

STANFORD UNIVERSITY MEDICAL SCHOOL

Cooper Clinical Society.

You are cordially invited to attend the meeting of the Cooper Clinical Society, which will be held on Monday, April 10, at 8 p. m., Room 311 of the Clinic and Laboratory Building, Stanford University Medical School, corner Sacramento and Webster streets.

Program.

1. Cases from Lane Hospital.
2. "Something on Colles' Fracture" (Lantern demonstration). Dr. Emmet Rixford.
3. "Notes on the Present Status of Anaesthesia." Dr. Caroline B. Palmer.

H. E. ALDERSON, President.

GEORGE D. BARNETT, Secretary.

LOS ANGELES COUNTY.

Eye and Ear Section, Los Angeles.

Regular meeting of Eye and Ear Section of the Los Angeles County Medical Association, held at the offices of Drs. A. C. Rogers, T. J. and Geo. McCoy, 636 Security Bldg., Los Angeles, California, February 7, 1916.

Attendance. Drs. Brown, Dudley, Detling, Fleming, Griffith, Ide, Kyle, Leffler, T. J. McCoy, G. W. McCoy, F. W. Miller, Montgomery, Old, Rogers, F. L. Sweet, Stivers, Swetnam, Tholen, True, Kelscy.

The minutes of previous meeting read and approved. On roll-call continuing the necrology report of last meeting the following members presented cases:

Dr. Ide, first case: G. N., age 55, gardener, Oct. 21. Complaint: Cough, expectoration, loss of flesh, hoarseness (aphonia), pain in throat.

Previous history: Acknowledged gonorrhea, denied syphilis, no other illness. Present illness: Two months previously after imbibing whisky had gotten very wet in a rainstorm. For two months now voice has been hoarse. For five days has had pain in the throat (so severe as to interfere with deglutition) and increased hoarseness now amounting to aphonia. The night before his visit to the office had been unable to sleep because of the pain. No illness previous to two months ago. Examination: Epiglottis thickened, rigid, immobile, arytenoids swollen; vocal cords thickened, ulceration in interarytenoid sulcus. Smear from larynx contained many tubercle bacilli. No discoverable lung involvement. Diagnosis: Laryngeal tuberculosis apparently primary. Treatment: Tuberculin by graduate method in slowly increasing doses. Temperature running as follows: 99.6, 101.2, 100.4, 99, 98.3, 98.4, 98.8, 99. Nourishment taken through feeding tube in prone position. Local applications of formalin in glycerine and orthoform. At this stage deglutition was so painful and the epiglottis so rigid the pain was relieved by cocaine spray or orthoform, the epiglottis was amputated Nov. 11, the intention being to inject the superior laryngeal nerves also. The epiglottidectomy was followed by relief. At the sixth visit to the office following this proceeding the man returned home while it was raining. A fresh infection carried the temperature up to 103, 103.4, etc., the respirations to 32, 44. Death ensued, the picture during these last days being typical of acute lobar pneumonia. This case was reported promptly to the Health Department, and the house was visited by a district nurse, but since this man's death the nephew who accompanied him to my office, who also lived with him, has died; the man's wife is in the County Hospital with tuberculosis of the lungs and all of his three children have the disease.

Case 2. Miss A. D., age 32, consultation case. Previous history: Had an injury to her head in childhood. Present illness: Presents the phenom-

ena of Jacksonian epilepsy. Vision very indistinct; has diplopia, sees at all well only with left eye covered and temporal side of right retina turned toward object. There is right homonymous hemianopsia. Double papillitis, acute and active, the edges of both optic discs being obliterated, the veins are dilated and the arterics indistinct. There are punctate hemorrhages of retinae, both retinae. As to involvement of cranial nerves:

- I Normal.
- II Double papillitis.
- III ?
- IV ?
- V Anesthesia of right cheek.
- VI ?
- VII Paresis of right face.
- VIII Pronounced tinnitus right.
- IX Normal.
- X "
- XI "
- XII Paresis of right side.

There was diplopia with evident involvement of either the 3d, 4th or 6th nerves, but patient's mentality was too low at the time to investigate which. Decompression was secured by two trephine openings by Dr. W. J. G.; a few days later patient died after being in coma from time of operation. The dura was not incised, there was no idea that the lesion was an abscess. This woman had a coarse masculine appearance with considerable growth of hair on the face.

Dr. F. F. Kyle—first case: Man after six weeks with pain in the left eye and supra orbital had been treated by local measures; I saw the patient after 10 days, he had a bulging eye with pus in the middle fossa of the nose. X-ray picture showed left ethmoid a dark shadow. I suspected pus had broken through into the left orbit. The nose very narrow but I removed the left middle turbinate which was followed by a great amount of pus, pressure on the eye also forced out pus. Meningitis from orbital cellulitis developed on the opposite side, temperature ranged from 105 to 106. Lumbar puncture showed streptococci infection.

Third case: followed a tbc. mastoid. Young man of 21 in late stage of tuberculosis of the lungs developed acute mastoid, ear became infected, operation on mastoid under 2% novocain with no pain, two months later patient developed Tbc., miliary form of meningitis, which was confirmed by post mortem.

Q. Dr. Rogers of Long Beach: Did the infection of the meninges come from the ear? A. Don't think so. Dr. Fleming—discussion: I had a similar case, used cocaine in a mastoid operation. Patient died with Tbc. meningitis one year later.

Dr. Geo. McCoy: Did Dr. Fleming's case get well after the operation and die later? A. Yes.

Dr. Tholen: While in Boston I saw a septum operation under ether which took one hour; 20 minutes after the operation patient died. The nurse had left him for 20 minutes. He became cyanotic. The doctors all said no patient should be left alone.

Report of Clinical Cases Shown This Evening.

Dr. T. J. McCoy showed a case on which he had done Reese resection tenotomy, etc., for squint. He also reported case of eye death, or loss of an eye, in a lady operated on one month ago. She was nervous. I could not fix her eye, she would roll it up and I had to use a spoon and lost not more than two drops of vitreous; two hours afterwards patient had an attack of violent vomiting and hemorrhage of the central artery of retina—sight of eye was lost. I found out afterwards that this patient was subject to vomiting and sick headache but had not told me. Instruments shown for eye work, forceps.

Second case shown: Boy became blind in one

eye from an embolus of a branch of central artery. Literature says these cases are rare. In this case all the tests were normal—Wassermann, Tbc., etc.

Discussion by Dr. Frank Miller and F. L. Rogers. Dr. Griffith's case shown: A woman, larynx case. She gave a history of having had a fibroid tumor removed 16 years ago; also one year ago had a goiter which disappeared after iodine treatment. Several weeks ago noticed a swelling of the throat following vaccine treatment for acne. Case shown for diagnosis. Discussion, Dr. Geo. McCoy—I think the right-sided lump was connected with the cartilages of the larynx.

Dr. Kyle: I have formed no definite opinion.

Dr. Fleming: It might have been a traumatism with inflammation and swelling following.

Dr. Dudley: Was the condition perichondritis or chondritis? Ans.: Yes, I think it was.

Dr. F. L. Rogers: Case resembles one I saw in Rochester, Minn.; found to be a lobe of thyroid which was removed by operation.

Dr. G. W. McCoy: Dr. Hamilton of Venice had a similar case himself. The removal of the goiter was advised but he went to another doctor who got him well without operation.

Dr. G. W. McCoy—first case: Cataract. Iris firmly bound down but the lens slipped out easily; it was syphilitic. Two other cases similar all turned out well.

Second case: A child 19 months old who had a safety pin in the bronchus two months. I did tracheotomy and removed the pin all right. Pneumonia followed but the child recovered and is now well.

Third case: Foreign body in the bronchus. Bronchoscope passed but found nothing. Ten days later excessive coughing and development of pneumonia but patient got well. I have had 60 or 70 cases of foreign body in the bronchi, either my own or associated with others. I have had two deaths. One was a peanut in the right bronchus; the other case was a jackstone. The child had had two short anesthetics given by general practitioners who tried to fish out the jackstone. While I was manipulating the jackstone lodged in Cricoid cartilage and child died suddenly.

Discussion. Dr. J. J. Kyle: I remember a case in which a grain of corn was removed from the bronchus of a child; the mother picked up the child and it died instantly.

Dr. G. W. McCoy mentioned several points in the technique in removal of foreign bodies from the air passages.

Dr. Montgomery showed an X-ray plate made from a patient with acute frontal sinusitis. He removed anterior portion of the middle turbinate and the anterior ethmoid cells, could not reach the frontal sinus on account of a very large ethmoidal cell closing up the passageway but evidently drainage was established because the patient recovered.

Old Business: Report of the Necrology Committee on the death of Dr. Rose T. Bullard was received and, on motion, was ordered spread on the minutes of the meeting.

Applications from the following were received: Dr. Lloyd Mills, Dr. Burrows. The chairman appointed the Executive Committee.

Annual Meeting of the Eye and Ear Section, Los Angeles County Medical Association, held in the offices of Drs. Fleming, Hastings and Montgomery, Los Angeles, Cal., January 3, 1916.

Attendance: Drs. Bullard, Brown, Dudley, Fleming, Hastings, Lund, T. J. McCoy, G. W. McCoy, Montgomery, Sweet, Stevenson, True, Detling, Reynolds, Graham, Ide, Griffith, Loeffler, Old, Swetnam, Tholen, Stivers.

Minutes of the previous meeting read and approved.

Dr. Old showed a case of laryngeal tumor. History over last 22 months; Wassermann negative;

Tbc. negative. Sputum now shows bacilli. Q. Is this case with laryngeal involvement primary Tbc.?

Discussion.

Dr. Fleming: Primary Tbc. of larynx has been reported but so rarely it can be set aside. This case is probably not primary. Q. What has been the treatment? A. Don't know, except locally usual remedies.

Dr. Hastings: I have seen cases of tuberculosis of larynx treated in all sorts of ways locally, by astringents, by antiseptics, by formalin, curettage, and it seems to me that in spite of all I ever did they never seemed to improve; but Tbc. cases do get well by leaving them alone locally and using tuberculin injection and general treatment.

Dr. Lund: Dr. Davies is with us, he has been working with Tbc. cases for years; what has he to say?

Dr. Davies: I think Tbc. larynx cases get well by rest, tuberculin, general treatment, etc.; the local treatment is of no use.

Dr. Reynolds: How about orthoform?

Dr. Hastings (answer): It calms and soothes. First clean off the larynx and apply a powder consisting of orthoform, iodoform, stearate of zinc.

Dr. Geo. McCoy said we should remember alcohol injections into the laryngeal nerves to quiet severe pain. He also reported results of treatment of foreign bodies in the eye, covering a period of the past 7 years in 10,000 cases.

Dr. Detling: Supplementary report to polyp. case of last meeting. Following its removal pus appeared in the nose. I am sure now that the polyp. removal opened the way to the pus chamber. Later I opened ethmoid and sphenoid and removed a large amount of pus.

Dr. Fleming, supplementary report to his case of sphenoid from last meeting. I found the pus to be pure staphylococcus—case is now well.

Report of Fatal Cases.

Dr. Dudley reported two cases: first of panophthalmitis following pneumonia and dying of meningitis. Second case, O. M. P. C.: Developing meningitis—resulting fatally.

Discussion: Dr. Sweet of Long Beach: There is yet some work to be done in the differential diagnosis between labyrinthitis and meningitis. We should formulate some sort of conclusion as to what to do in these cases. In my cases I have had bad results but it seems to me we should not have.

Dr. Montgomery reported two cases.

First case of meningitis.

Second case at County Hospital, woman admitted with a history of having been in a private hospital for 5 days, treated by hot applications; she then went to County Hospital with a request for immediate operation; meningitis developed; lumbar puncture was made, fluid showing pus germs; death in four days.

Third case, of a child with an acute cold Tuesday; Wednesday developed acute O. M. P. A. Osteopath saw child; the following Sunday it developed meningitis. Kernig's oposthotonos and irritability, no mastoid tenderness. Two days later lumbar puncture done and the fluid removed, now shows streptococci hemolyticus, child is improving, but I claim it would not be advisable to operate if we find organisms in these very cases.

Dr. Detling reported case of man with history of earache, removed wax before breakfast, after breakfast went back, no unusual symptoms; next day voice was queer, thickening of the upper posterior wall, no other symptoms. Later in the day patient was worse, semi-comatose; made memb. tympan. incision, found pus. Family physician did not agree but Dr. J. M. Brown said it was meningitis, with Kernig's sign. Paralysis of the external rectus muscle. We made a spinal puncture.

Pathol. reported streptococcus mucosa infection. Patient died 2½ days later.

Discussion—Dr. Fleming: Q. Was there no other history of ear trouble? A. No.

Dr. Detling reported second fatal case. Infant with congenital catarrh, operated. Cause of death? Probably suffocation due to child having been put to bed with hands tied behind it, and in drinking milk, vomited, etc.

Dr. Hill Hastings reported case of meningitis. Dr. Bullard asked what organism was found. A. Streptococcus. Dr. Brown asked what condition were the sinuses? A. Normal.

Dr. Stephenson: I was associated on this case; it was a remarkable case, especially in regard to the choked disc and its development only when the germs were found in the spinal fluid.

Dr. Sweet: Did you suspect local meningitis? A. Yes, first local, then general.

Dr. Geo. McCoy: Just because he had a negative Widal is no sign he did not have typhoid fever. In cases with infection, the finding of germs in the spinal fluid does not necessarily mean that they will be fatal.

Dr. G. W. McCoy reported fatal case in an adjoining town. Child with bulging eye, developed meningitis from orbital cellulitis. No post-mortem allowed. Streptolytic serum used, and autogenous vaccine with relief.

Dr. Sweet of Long Beach: Case of death was the one reported last week—meningitis.

Dr. Stephenson, four cases. One case of the larynx, tubercular; one case of O. M. P. A., which developed meningitis; third case, O. M. P. C. and meningitis, from which I learned one lesson, with a posterior, superior, bulging auditory canal, I would do a mastoid operation at once.

Dr. True reported first case meningitis operated on by radical method and died. Second case, tonsillectomy. This had been operated on eight days before for T. & A. Boy had been well operated. Hemorrhage developed after crying spell at night. He had a systolic heart murmur. Counsel called in and everything known was tried. Sewing pillars together, etc. Child died.

Dr. Fleming asked was it a complete Tons. operation?

A. Yes.

Remainder of cases postponed until next meeting.

The Nominating Committee recommended the following for officers for the ensuing year:

Chairman, Dr. C. H. Montgomery; vice-chairman, G. W. McCoy; secretary, C. G. Stivers; councillor, T. J. McCoy.

Moved by Dr. Stephenson, seconded by Dr. Old, that the report be accepted.

Moved by Dr. Stephenson, seconded by Dr. Old, that secretary cast the ballot for nominees. Secretary did so, and the above officers were elected.

Dr. Montgomery took the chair, and the secretary and treasurer read his annual report.

Dr. Montgomery moved the report be accepted. Carried.

Dr. Lund moved the society extend resolutions of sympathy and condolence to Dr. Bullard for the loss of his wife, Dr. Rose Talbott Bullard. Carried.

C. G. STIVERS, M. D., Secretary.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of February, 1916, the following meetings were held:

Tuesday, February 1st. Mary's Help Hospital Clinical Evening.

- I. a. Case of Pulsating Exophthalmos.
- b. X-ray Plate of Exophthalmos without Pulsation.

- c. Case of Anuria in Acute Ulcerative Tonsillitis (Lues).
- d. Conservative Eye Surgery in Steel Injury; Presentation of Case.
- e. Acute Intestinal Obstruction on sixth day after Smooth Cataract Extraction; Fatality in 4 hours.
- f. Carcinoma Choriodeae; pathological specimens. C. E. Taylor and G. T. Brady.
- II. Lacerated Wound of Cornea and Lens caused by Piece of Steel Drill. Presentation of Case. M. W. Fredrick.
- III. a. Recovery from Tetanus.
- b. Hydronephrosis following Ureteral Stone in a Mononephritic. A. S. Keenan.
- IV. An Unusual Case of Foreign Body in the Eye, followed by Malignancy. M. W. Fredrick.
- V. a. Perisinus Abscess; Sinus Thrombosis.
- b. Sarcoma of the Superior Maxilla masked by Vincent's Angina. J. J. Kingwell.
- VI. Problems in Deformity.
 - a. Club Foot.
 - b. Spastic Hemiplegia.
 - c. Ankylosis of Elbow.
 - d. Spur on Heel.
 - e. Infantile Paralysis (shortening of three inches).
 - f. X-Ray Plates of Ankylosed Knees.
 - g. Kyphosis, Scoliosis and Paraplegia, treated with Bone Grafts. C. C. Crane.
- VII. Primrose Poisoning. E. D. Chipman.

General Meeting, February 8.

- 1. References to Anatomy in Rabelais. D. W. Montgomery. Discussed by A. L. Fisher.
- 2. The Application of Anoci Association to Obstetrics; Report of Cases. C. L. Hoag. Discussed by L. I. Breitstein, A. B. Spalding and F. Lynch.
- 3. Septic Teeth (illustrated by lantern slides). J. S. Marshall. Discussed by A. L. Fisher, W. C. Alvarez, J. G. Brady and C. F. Welty.

Eye, Ear, Nose and Throat Section. February 23.

- 1. Presentation of Case of Trachoma, Treated with Carbon Dioxide Snow. A. S. Green.
- 2. Presentation of Two Interesting Cases of Labyrinthine Disease. H. B. Graham. Discussed by G. P. Wintermute, A. Baer, G. Brady, H. Horn, C. F. Welty and H. B. Graham.
- 3. Review of Thirteen Cases Operated by Smith-Indian Method; with presentation of cases. W. F. Blake. Discussed by W. S. Franklin, A. S. Green, A. Cohen, G. Brady, V. Hulén, K. Pischel, L. D. Green and H. Barkan.

Section on Urology, February 29.

- 1. (a.) An Interesting Case of Pyonephrosis Necessitating Complete Ureterectomy.
- (b.) X-ray plate of diverticulum of bladder.
- (c.) Specimens of tuberculous kidneys.
- (d.) Specimens of tuberculous testicle.
- (e.) Specimen of dilated ureter. M. Krotoszyner. Discussed by R. L. Rigdon and S. Beasley.
- 2. Vesical Calculus; Historical. M. Silverberg.
- 3. Case of Complete Urinary Retention due to Urethral Calculus. G. W. Hartman. Discussed by J. von Werthern.

Transactions of the Surgical Section of the San Francisco County Medical Society, February 15th, 1916. Chairman, Harold Brunn, M. D.

1. Adenocarcinoma of the Thyroid, with Metastasis to the Skull; presentation of case. Dr. P. Campiche.

Young man of 30 yrs. with large tumor of thyroid first noted at age of 14.

Three years ago a large tumor of left temporal region was diagnosed metastatic adenocarcinoma from the thyroid. Under use of Coley's toxin this growth disappeared. The original tumor remains.

Discussion.

Dr. W. Ophüls: I only wish to state that adenocarcinoma of the thyroid is very difficult to diagnose histologically. The evidence of malignancy is not very pronounced, and unless you have clear evidence of growth into the muscle or skin, it is not easy to distinguish between benign and malignant tumors of the thyroid. We have had four or five malignant tumors of the thyroid in the last five months, although as a rule they are quite rare.

Dr. W. I. Terry: I would like to ask Dr. Ophüls if there is no difference between the sarcomas and carcinomas. In their clinical course it seems to me the sarcomas grow much faster.

Dr. Ophüls: They are much more malignant, and there are combinations of both carcinoma and sarcoma in the same gland.

2. Pathological Specimens and Case Reports: Dr. W. I. Terry.

(a) Osteochondroma of Tibia.

(b) Benign and (c) Malignant Papilloma of stomach. No discussion.

3. Preliminary Blood Tests in Transfusions. Dr. S. H. Hurwitz. (Published in this number of the Journal, p. 163.)

4. Report of Transfusions done in St. Luke's Hospital during the past five years. Dr. F. W. Birtch. (Published in this number of the Journal, p. 163.)

Results of 89 Transfusions done by Drs. Terry, Weeks and Pope. Dr. Saxton Pope:

Diagnosis	No.	Not	
		Relieved	Improved
Acute Hemorrhage.....	27	26	1
Shock	3	—	3
Secondary Anemia.....	8	5	3
Septicemia	7	1	6
Pernicious Anemia.....	1	—	1
Hodgkins	1	—	1
Typhoid Hemorrhage.....	5	3	2
Sarcoma	3	—	3
Hemophilia	3	3	—
Pseudoleukemia	2	2	—
Purpura	2	1	1
Hemorrhage Neonatorum..	1	—	1
Urticaria	3	3	—
Cholemia Hemorrhage.....	2	2	—
Gas Poisoning.....	12	2	10

Discussion.

Dr. A. Newman: I have had one case of typhoid hemorrhage treated by direct transfusion. There was severe hemorrhage from the bowel in the third week of the disease. Dr. Schwarz performed the transfusion three hours after the hemorrhage. The donor had had a typhoid vaccine injection a week before, the first of a series of three. The arms were joined about 25 minutes. I had a blood pressure apparatus on the donor's arm and kept the blood going until the blood pressure began to fall. The effect on the recipient was magical. Previously white and exsanguinated, she became rose red to the tips of her ears. There was no further hemorrhage, and after a more or less stormy period she recovered. The effect upon the donor so far as typhoid was concerned was nil, but she was weak for about a

month, I suppose on account of the large amount of blood lost.

Dr. W. I. Terry: I do not know whether Dr. Pope included in these cases a number I transfused previous to other operations, but that is an indication I think for quite a number of transfusions, whether they be done by the direct or indirect methods.

Personally, I have come to place more confidence in the red blood count than in the hemoglobin estimations. It seems to me there is more possibility of error in the hemoglobin estimations than in the red blood counts, but they are interesting to compare. With 20% hemoglobin you should have practically one million in the red count.

I was much interested in Dr. Hurwitz's statement of preliminary testing of all donors. I did not realize that it could be done in a few minutes, and I shall certainly have it done in future.

In the first case of sarcoma I transfused, no hemolysis showed in the tube, but the recipient's blood was apparently hemolyzed.

Dr. H. R. Oliver: I have but little experience with transfusion—only one case in which the hemoglobin was down to 12 (ectopic pregnancy) in which transfusion was done with rapid recovery.

In cases of hemorrhage neonatorum, whole blood from the mother or father has been injected directly into the gluteal muscles; the hemorrhages immediately stopped and all recovered.

I have had two cases of gastric hemorrhage. One about two weeks ago; hemoglobin 30. The patient had been treated with horse serum, calcium, etc., without alleviation and the hemoglobin was still going down. I took 20 cc. of the wife's blood and injected it into the muscles. The day after the injection there was no more blood in the stool. We took the blood yesterday and the hemoglobin was 92. The other case (hemoglobin 17) was injected the day before yesterday and as far as we can tell the hemorrhage stopped.

The method is simple and it is well to try it in any sort of hemorrhage—severe epistaxis, phthisis, etc. I use the ordinary 20 cc. Luer syringe, boiled in sodium citrate solution, and two needles. Fill the syringe from the donor's vein, have the other needle ready, insert into the gluteal muscle and inject. There is no soreness; it is rather an extravasation through uninjured tissues.

Dr. J. L. Whitney: Some recent work by English physiologists seems to explain why transfusions have not been successful in gas poisoning. The theory of transfusion is based on the supposition, which is probably still being taught in most schools, that carbon monoxid forms a permanent combination with hemoglobin, thus excluding oxygen and causing asphyxia. As a matter of fact, the compound thus formed is not permanent and, if such blood is exposed to air in the absence of CO, the carbon monoxid hemoglobin breaks down and the blood is as good as it was before. The experiments I speak of were first done by Haldane and Lorraine Smith* and later repeated by others. In order to study various questions on circulation and respiration, they saturated their own bloods up to 40 per cent. with carbon monoxid and suffered no ill effect. They have published a curve showing the relative partition of the hemoglobin between CO and O₂ at various percentages of carbon monoxid in ordinary air. This shows that with .05 per cent. of CO, the blood is 42 per cent. saturated with carbon monoxid, and at .1 per cent. the blood is 60 per cent. saturated. The reaction is reversible and depends upon the well-known law of mass action, so that if there is CO in the air inhaled the stream is into the blood up to the saturation point, and,

on the other hand, if the air breathed contains no CO the stream is out of the blood until the CO is entirely removed.

Therefore, if vigorous artificial respiration is used as soon as the patient is seen, preferably using oxygen in addition to the air, his blood will be entirely free of CO within a very few minutes and quite as good as any blood that could be put into him by transfusion or any other means.

It may be asked, What is the cause of death in these cases of gas poisoning? Haldane has shown that death is due to asphyxia, because the CO hemoglobin will not transport oxygen. The various tissues of the body withstand asphyxia for a different length of time. For example, the skin is very resistant and it is believed that the epithelium often survives after death for a week. The liver and kidney epithelium are also resistant. Nerve structures, however, perish after a few minutes of asphyxia, the higher centers before the more vital ones. The death of the respiratory centers occurs quite accurately eight minutes after full asphyxia, though in partial asphyxia such as must often occur in gas poisoning, it probably survives longer. If the respiratory center is dead of course the patient cannot be brought back to life. If he has been "gassed" just short of the time necessary to kill the respiratory center, the cerebral centers may have perished, and in this case he may go on breathing but his higher centers are permanently dead; that is to say, he remains in a state of coma. Such a man is technically alive but, inasmuch as the dead nerve structures are incapable of regeneration, he will never recover consciousness, and any amount of treatment of any sort will manifestly be wasted effort.

Dr. H. B. Reynolds: I would like to ask in what particular conditions of urticaria Dr. Pope gave transfusion, and whether he thinks the intramuscular would do as well as the direct transfusion.

Dr. H. C. Naffziger: I saw most of these cases of gas poisoning. Two more were transferred to the City and County and the University, one of whom recovered after transfusion, which would bring the total up to 14 with three recoveries.

The people familiar with gas cases can make a fairly correct prognosis, and it is only fair to state that these were uniformly the worst cases that came in—cases that were manifestly going to die.

Dr. Harold Brunn: I have had a considerable series of transfusions and have also used the injection of whole blood in various forms of hemorrhage.

In two cases of melena neonatorum I found it very difficult to connect up the saphenous vein, largely because of the lack of proper instruments. In both cases, after failure with transfusion, the use of whole blood from the father caused hemorrhage to cease.

I have had only one case in which I used citrated blood. This was a case of internal hemorrhage, post-peritoneal, at the Mt. Zion Hospital. Five hundred cc. of blood, diluted with 0.2 per cent. sodium citrate was used. Immediately after the injection the boy suffered a severe chill, followed by a high temperature. The following day he was better, but we did not feel justified in repeating the injection and adopted the expedient of using 20 cc. whole blood subcutaneously instead.

A case of purpura hemorrhagica with bleeding from practically all of the mucous membranes, as well as a large hemorrhage into the lesser peritoneal cavity was cured after giving whole blood injections over a considerable period of time.

A number of cases of hemorrhage from the kidney have improved remarkably with the use of whole blood injected subcutaneously.

Since nobody has made mention of the fact, a word of warning might not be out of place in re-

* Haldane and Lorraine Smith: Jour. Phys., 1896, xx, 497; 1897, xxii, 231; 1900, xxv, 331.

gard to the danger of sudden dilatation of the right heart during transfusion. Such an accident happened at the City and County Hospital in a case of carcinoma of the cecum with pronounced anemia. Preliminary to a short circuiting operation, transfusion was done by the direct method. Soon after the blood began to flow through the vessels, the patient was seized with mild convulsions, his respiration became embarrassed, his pupils dilated, and he died soon afterward in shock. I take this to be a case of death from sudden dilatation of the right heart.

Dr. Henry Horn: It is curious how little the value of this whole blood transfusion is known in connection with tonsil cases. It is curious also that I had four consecutive cases at St. Francis Hospital and each time the donor was the resident physician there—he has not only acted for me, but also in other cases. It seems to me that his blood has high agglutinating power because the results in some cases have been perfectly marvelous. The use of this method in tonsil hemorrhage is the simplest and by all odds the most practical.

Dr. B. Jablons: In connection with transfusion of infants, by utilizing the veins of the scalp it is possible to inject or withdraw blood with little difficulty.

I would like to ask Dr. Hurwitz whether it is possible to organize a bureau of donors on a practical basis, utilizing Landsteiner's classification, dividing donors into four groups.

I would also like to ask whether the hemolytic and agglutinating tests would not be affected by immersion in ice.

Dr. Hurwitz, closing discussion: In answer to Doctor Jablon's question as to whether or not hemolysis will occur at low temperatures, it is possible to state by analogy with the clinical condition, paroxysmal hemoglobinuria, that such may occur. As you well know, in the latter condition sensitization of the red corpuscles by the amboceptor takes place at low temperatures, whereas the action of the complement occurs at higher temperature. I have already referred to the presence of agglutinins in normal human bloods, and, as I stated, it is possible to divide individuals into four groups on this basis.

I was particularly interested in the discussion of the treatment of hemorrhagic diseases with whole blood, and rather surprised to learn that Doctor Birch had not had success with the use of whole blood in hemophilia. The work of Libman and Ottenberg, to which Doctor Birch referred, is rather insistent upon the value of transfusion in hemophilia. In fact, they recommend that every individual known to be hemophilic should have on hand a donor or donors whose blood has been found by preliminary tests to be compatible with theirs, so that in case of an attack of bleeding, one could resort to an immediate transfusion.

It is interesting to note how most physicians are paying less and less attention to the use of serum in this disease, and it is quite in keeping with what we are learning about the etiology of the various types of hemorrhagic disease. Especially in hemophilia, in which instance it has been shown with a fair degree of certainty that the defect in the blood is due to a deficiency in the circulating prothrombin, can we hope to supply the missing element in no other way than by the use of whole blood. Very recently a number of workers have also reported successful results with the use of whole blood in purpura hemorrhagica.

Dr. F. W. Birch, closing discussion: In that case of hemorrhagic purpura the hemorrhage stopped after transfusion, but it recurred in about three weeks and had to be transfused again. I was only disappointed that it did not cure it. But it stopped the hemorrhage at the time.

Dr. Saxton Pope, closing discussion: Dr. Rey-

nolds asked about urticaria. Dr. Morrow has used blood injections a great deal and has found them almost specific. This case verged upon angioneurotic edema and was permanently relieved by one or two injections of whole blood intravenously.

As to what form of transfusion you use, I think there is a choice. Medical men speak of the Lindeman method, which is the use of the intravenous cannula with record syringes used in succession.

The Lewishon method depends on the use of citrate of soda in two tenths per cent.—added to whole blood. The mixture does not coagulate and may be delivered intravenously by means of a hypodermic syringe outfit.

When you want a large volume of blood, you had better give a direct transfusion with the cannula method.

In typhoid possibly there is a chance for transfusion by the Kimpton-Brown tube, although this scheme is capable of damage, where positive pressure is used, through the introduction of clots into the circulation. In transfusing from dogs the usual clotting time is less than in human blood—it clots in a Kimpton tube in less than three minutes, giving one a very short time for collection and administration of the blood.

Where you wish to restore the volume of blood a direct transfusion is undoubtedly best. It is a simple thing to tell how much blood is passing over. If the cannula is connected with the radial artery and the blood run into a graduate glass, it usually runs one-half ounce in ten seconds. The vein pressure is 7 mm., the artery pressure 140, so that there is little deduction to be made for differences in pressure. In ten minutes you are running at least a pint of blood.

We transfuse our patients ten to twenty minutes, sometimes seven minutes in children. The donor usually will faint in fifteen minutes. The radial artery in the donor after such an operation, usually is restored and apparently is as good as ever after six weeks.

The surgeon will always want to use the direct method; the internist will favor the syringe. Take your choice and use discretion.

BOOK REVIEWS

Diseases of the Skin. By Henry H. Hazen, A. B., M. D. Published by C. V. Mosby Company, St. Louis, 1915.

Hazen's book on Diseases of the Skin is well worth reading. The illustrations alone are enough to make the book of great value. In fact much can be learned from a study of the pictures without the print. It is not a difficult book to read as the print is large and in no place is any account long enough to be irksome, yet the subjects are all carefully covered. One could wish that even a little more might have been given on treatment, but to cover everything necessary to be considered in the treatment of skin diseases, it would require a book devoted to this subject alone. Written as the book is by a man of such excellent training and of such extensive experience both in private practice and in the clinics it is a treatise that one who is interested in skin diseases would not regret to own. G. D. C.

Text Book of Materia Medica for Nurses. Compiled by Lavinia L. Dock. Fifth Edition. Published by G. P. Putnam's Sons, New York and London, 1915. Price, \$1.50.

A well arranged, concise and convenient book for reference and study by the class of readers for whom it is written. The brevity of the descriptions of the drugs and their actions is especially to be commended, and the introductory notes

on the preparation of solutions, dosage, etc., are very good.

In view of the general excellence of the book it is regrettable that the author did not submit the chapter on Serum Therapy and Vaccines to some one more familiar with the subject, before incorporating it in the book. The paragraph on the Pasteur treatment for rabies in particular shows a very hazy idea of the subject. A. W.

Laboratory Methods. With special reference to the needs of the general practitioner. By B. G. R. Williams, M. D., and E. G. C. Williams, M. D., With an introduction by Victor C. Vaughan. Third edition. Illustrated with forty-three engravings. Published by C. V. Mosby Company, St. Louis, 1915. Price, \$2.50.

A small book intended for the general practitioner, or rather for the practitioner remote from a laboratory base, or without previous laboratory training.

The book smatters of stuff from urinalysis to post-mortems. Sputum, bacteriology, hematology, gastric analysis, tissue diagnosis, toxicology, exudates, Widal reaction, milk analysis, water analysis and stool examinations are all touched upon in its 200 pages.

The detail-demanding Hermann-Perutz test is given as a satisfactory substitute for the Wassermann reaction; the Diazo is invariably present in early typhoid, and is much preferred to the Widal; diphtheria is diagnosed by smear preparations. None of the more recent simple yet more delicate tests is mentioned.

The book aims at economy in equipment as well as time and effort in procedure. By spending a dollar or so more, the practitioner can buy a real book. There are better small books. E. A. V.

The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume V, Number 1 (February, 1916). Octavo of 194 pages, 33 illustrations. Philadelphia and London: W. B. Saunders Company. 1916. Published Bimonthly. Price per year: Paper, \$8; cloth, \$12.

Contents.

Congenital Cyst of Neck Extending into Axilla.
Adenocarcinoma of Breast.
Ulcer of Duodenum.
Volvulus of Jejunum—Untwisted.
Peridiverticulitis of Sigmoid.
Urethral Caruncle.
Luxation of Third Lumbar Vertebra with Compression of Cauda Equina.
Fracture-luxation of Second Lumbar Vertebra with Compression of Cauda Equina.
Tuberculosis of Thoracic Spine with Compression of Cord.
Elongation of Capsule of Hip-joint Simulating Congenital Luxation.
Ankylosis of Hip-joint, Dense and Fibrous in Type, from Ancient Infection.
Ancient Tuberculosis of Hip-joint.
Ancient Tuberculosis of Hip-joint with Pathologic Luxation of Femur.
Ancient Metastatic Bacterial Synovitis of Hip-joint with Adduction-Deformity.
Osteomyelitis of Femur.
Traumatic Rupture of Internal Lateral Ligament of Knee-joint.
External Luxation of Patella with a Foreign Body in Knee-joint.
Bony Ankylosis of Knee-joint.
Hypertrophic Villous Synovitis of Knee-joint.
Ankylosis of Knee-joint Following a Furuncle.
Tuberculosis of Knee-joint.
Hallux Rigidus.

Applied Immunology. The Practical Application of Sera and Bacterins Prophylactically, Diagnostically and Therapeutically. With an appendix on serum treatment of hemorrhage, organotherapy and chemotherapy. By B. A. Thomas, A. M., M. D., and R. H. Ivy, M. D., D. D. S. Five colored inserts and 68 illustrations in text. J. B. Lippincott Company, Philadelphia and London, 1915. Price, \$4.00.

The scope of this work seems to be a rather wide one. Among topics discussed are immunity in general, the side-chain theory, anaphylaxis, the preparation and use of the various kinds of antisera (including many of very doubtful value), use of rabies virus, small-pox vaccination, immunization of bacterial vaccines (typhoid, cholera, etc.), agglutinins, technic of Widal reaction, precipitins, Bordet test for blood, lysins, fixation of complement in various diseases, particularly with reference to the Wassermann reaction, the Abderhalden test, tuberculin and other allergic tests, tuberculin therapy, the opsonic index, serum treatment of hemorrhage, including the Swift-Ellis technic. In the preface the author excuses himself by lack of space from entering into theoretical discussions, and chooses to be rather dogmatic at times rather than to enlarge on controversial subjects. One cannot but feel that if the scope of the book had been restricted to the most important of the subjects included, more thorough discussion would have been possible, and references at least could have been given to those who wished a more fundamental understanding. However, there is a large amount of valuable material here gathered in compendious form, and the book should be of value to those looking for a practical manual on this subject. J. L. W.

Blood Pressure: Its Clinical Applications. By George W. Norris, A. B., M. D., Assistant Professor of Medicine in the University of Pennsylvania; Visiting Physician to the Pennsylvania Hospital; Assistant Visiting Physician to the University Hospital; Fellow of the College of Physicians of Philadelphia. Octavo, 372 pages, with 98 engravings and 1 colored plate. Cloth, \$3.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

In the preface of this book of 372 pages, the author states that he has endeavored to "present the subject of blood pressure, the literature of which has grown very extensive, in a condensed and practical form, and as definitely as the present state of our knowledge permits."

The first 126 pages deal with the physiology of arterial blood pressure and the various methods of determining it. One short chapter of 9 pages is devoted to the determination of the venous blood pressure and one of 43 pages to the functional efficiency of the circulation, including a discussion of the methods of estimating the rate of the flow of blood. In the remaining 185 pages the author discusses the changes in blood pressure which occur in disease, together with symptomatology and treatment under various conditions. He devotes one short chapter to blood pressure in Surgery and Obstetrics, and one to the relationship of blood pressure to Ophthalmology.

The arrangement of the text is good and the author's style is pleasing. The text is illustrated with many charts, diagrams and photographs which have been carefully selected. The bibliography is given in detail and at the foot of the page on which each reference is cited, an arrangement which is most gratifying. The index is well arranged and the typographical errors are few.

In that portion of the text which deals with the methods of determining blood pressure, too much space is devoted to a description of obsolete instruments and too little detail is given in the description of those which are of established value.

A more detailed description of a few of the more satisfactory instruments would be of greater value than the curtailed description of so many, and would be of greater aid in making a selection.

The portion which is devoted to the variations from the normal blood pressure and to the description of the various clinical manifestations and to their treatment contain much that is of value. The author has succeeded in gathering together an immense amount of data from many sources and in presenting it in such a form as to render it readily available. At the same time he has emphasized by greater detail those points in diagnosis and treatment which have proven to be of greater importance.

The book can be highly recommended to all who are interested in a review of the present status of blood pressure estimation in its relation to clinical investigation.

E. C. D.

The Treatment of Acute Infectious Diseases. By Frank Sherman Meara, M. D., Ph. D., Professor of Therapeutics, Cornell Medical College, New York City, etc. Text of 540 pages including index. Published by Macmillan Company, New York. 1916.

This compact volume is a welcome addition to the library of the busy doctor who has not, or thinks he has not time to sift and choose the best methods of treatment from periodicals and isolated texts. It can be cordially recommended to every physician who is concerned with the treatment of acute infections. It is essentially for the practitioner, and is frankly practical and didactic rather than theoretical and inferential. It comes as the concise crystallization of methods tested in personal experience and judgments critically proved, hence it has authority which is too often lacking in books on treatment.

The preface states: "Each chapter has been made to deal with an individual disease in a thoroughly practical manner; each little detail of procedure being explained so that the reader may actually apply it. Moreover the reason for the procedure, as based on our latest information, both in respect to physical therapy and to drugs, the author has sought to give. Constant and confusing reference to the literature has been avoided. . . . The book must be looked on as an expression of the author's individual opinion."

The mechanical preparation is particularly good. The size of type and page, margins and quality of paper make an attractive appearance. The excellent use of heavy-faced type to emphasize key words and phrases, and the bold-faced printing of paragraph and section headings, facilitates quick reference and impresses the memory. The comprehensive and carefully worded index is also to be commended. Each chapter, containing the treatment of a single disease, ends with a detailed summary of all the points in the text, furnishing an especially useful means of reference and topical review.

The first two chapters are devoted to general subjects. Chapter one on the general management of fever is written from a rational standpoint which is well illustrated by the order of precedence accorded the various remedial measures discussed. These are rest, proper diet including water intake, fresh air, hydrotherapy, and drugs. Chapter two on diet in acute infectious diseases is a distinct contribution in itself. The theory of dietetics is scientifically explained in succinct fashion, and the importance of this subject in practical treatment is emphasized.

In a volume of so many excellences it is to be regretted that imperfections find place, especially when as here, the imperfections are largely of a minor character and more or less such faults as pertain to a first edition and to hasty copy and proof reading. To note them is not to criticize but to indicate future improvement. The happiest

phraseology and clearest grammar is not always used, as for example on page 52, line 7, a clause is used as a complete sentence. Such errors have been admitted as on page 235, line 25, "The finding of the local lesion comes then as a surprise, awarding the routine of the examination of the throat." On page 175 and 176 the formula for phenacetin should be $C_{10}H_{13}NO_2$ instead of $C_{10}H_{11}NO_2$. On page 177 an ambiguous expression might lead one to think that Yeo advocated quinin in influenza, "his own preference being salicin" (?).

In describing the use of emetin in amoebic dysentery, on page 166, it is stated that emetin is not emetic in action, but only amoebicidal. Had emetin been given to an actual patient by mouth this statement would probably not have been made. It is claimed by Hesse that the emetic action of emetin is due to admixture of cephaelin, but experimental evidence is lacking, and in most preparations so far available for clinical use, the emetic action is marked. Given hypodermically emetin does not provoke emesis, its emetic properties as Cushny says, being probably applicable to the gastric mucosa. The description of the use of emetin leaves much to be desired. Its curative action after formation of liver abscess and the permanence of emetin cures, as well as its actual toxicity are in a measure still sub judice.

In spite of these minor faults, which doubtless will disappear with a new edition, the volume has great value and should find a place in the working library of every practitioner.

ALFRED C. REED.

Senescence and Rejuvenescence. By Charles Manning Child of the Department of Zoology, The University of Chicago. Published by The University of Chicago, Chicago, Ill., 1915. Price, \$4.00.

In all departments of biological science the last twenty years has been a period of enormous accumulation of new data, and in consequence working hypotheses that ten years ago were accepted almost as natural laws, are again in the melting pot; and he who would keep pace with the progress of modern thought needs to constantly refresh his knowledge by the aid of works similar to the one under review.

Professor Charles Manning Child entitles his book "Senescence and Rejuvenescence," but fundamentally such a book must and does take into consideration the bases of our knowledge concerning the nature of life and its relation to matter. The special field of investigation is fairly well stated in certain paragraphs of the introduction, wherein it is stated:

"The occurrence of senescence in the organic world raises many questions of great interest and importance, not only for the scientist, but in certain aspects for the human race in general. How do young and old organisms differ from each other, and what is the nature of senescence? Is it a feature of the fundamental processes of life or the result of incidental conditions? Does it occur in all organisms or only in the more complex, more highly differentiated forms? Does it inevitably lead sooner or later to death, or is a rejuvenescence of old organisms or parts possible? Is the process of senescence in a given organism always of the same character, or does it depend upon the environmental conditions? Is the rate of senescence always the same in a particular species, or does it differ in different individuals according to the action of internal or external factors? Many of these questions can be summed up in the one, Can we control senescence?"

"In nature the organism resulting from the union of the two sexual cells is young. This fact raises another series of questions. Does rejuvenescence occur somewhere in the course of sexual reproduction, or does the germ plasm from which the sex cells arise not grow old? Are the organ-

isms which result from asexual reproduction also young, or is sexual reproduction the only process which gives rise to young organisms? If rejuvenescence occurs, upon what does its occurrence depend and what is its nature? Does it occur in all organisms, or only in certain of them? Is complete rejuvenescence possible, or is the species and the organic world in general undergoing a senescence which will lead to extinction?"

These questions are dealt with, first, by a very valuable summary and critical analyses of various theories of the organism, followed by an even more valuable chapter on the life cycle.

The rest of the book deals with a great mass of experimental evidence recently accumulated concerning the nature of reproduction, sexual and asexual, regeneration, and senescence. It is utterly impossible to deal here with these chapters in detail, but some of the results are given in the last chapter, wherein the writer shows that senescence and rejuvenation are not necessarily sequential, but are often alternate phenomena, and that reproduction is essentially always a rejuvenescence of some part of an aging organism. He says, for example, "The regressive changes which bring about rejuvenescence are not necessarily reversals in the chemical sense of the progressive changes, but rather a substitution of a new substratum for an old. As a structure built by man, when it is no longer suited to existing conditions, may be torn down and some part of it used, together with new material, so in organisms structural features built up under certain physiological conditions, may under others be broken down and some of their constituents may take part in the formation of a new structure." The writer, dealing with the nature of the physical basis of inheritance, differs markedly from current conceptions. Thus he says in one place, "If we accept this theory of reproduction the Weissmanian conception of germ plasma as a self-perpetuating entity, independent of other parts of the organism, except as regards nutrition, becomes not only unnecessary but impossible. Germ plasma is any protoplasm capable under proper conditions of undergoing regression, rejuvenescence, and reconstitution into a new individual. In other words, germ plasma becomes merely an abstract idea which connotes the sum total of the inherent capacity, or potencies, with which a reproductive element of any kind, natural or artificial, agamic or gametic, giving rise to a whole or a part, enters upon the development process."

It is pointed out in one part of the book that among the possible conceptions of the nature of senescence is one implying the general running down of reproductive capacity of all living things, ending in ultimate life extinction. Our author, however, takes the view that amongst the possibilities is a rejuvenescence which may in itself be the fundamental factor in progressive evolution. He says, "In earlier chapters I have attempted to show that individual development and senescence are associated with increase in stability of the substratum, while regression and rejuvenescence involve a return to the original undifferentiated active protoplasmic conditions. It is of course not necessary to assume that in all cases exactly the same condition is attained in each successive regression and rejuvenescence. It is quite conceivable, indeed probable, that in spite of the successive regressive changes in each generation, there may be some slight, more or less continuous progressive change which perhaps becomes appreciable only after many generations. Have we, in fact, any right to assume that the organism returns to exactly the same condition in each successive regression? Is it not possible that a gradual, progressive senescence of protoplasm has occurred in the course of evolution?" Again he says, "If protoplasmic senescence is the essential factor in progressive evolution, then evolution is,

like individual development, to a large extent internally rather than externally determined." This leads our author to suggest that "we may perhaps expect that in the course of time our ability to control the evolutionary process may increase, although the difficulties involved in controlling and modifying to any great degree internal conditions, which are the result of millions of years of alternating progressive and regressive change, will perhaps make progress in this direction show." These quotations are enough to show the extreme importance of the problems dealt with by Professor Child, and the scientific spirit in which they are handled. It is to be understood that the manner of treatment in "Senescence and Rejuvenescence" bears no relation to that given by popular works dealing with similar subjects, and that we have here a book that no student of biological science can afford to be without.

H. D'A. P.

THE MARCH MEETING OF THE STATE BOARD OF HEALTH.

The regular monthly meeting of the State Board of Health was held on March 4, in Sacramento. There were present Dr. George E. Ebright (president), Dr. Edward F. Glaser, Dr. Robert A. Peers, and Dr. Wilbur A. Sawyer. A written report of the secretary's trip to Washington in connection with public health legislation had been placed in the hands of each member.

In response to a request for an opinion, the board decided that under proper conditions wooden bunks filled with straw are sanitary. It was thought that frequent changing of the straw offset some of the advantages of the more permanent cheap mattresses.

The secretary was given power to act in the matter of arranging an exhibit of the State Board of Health at the State fair of 1916 at Sacramento.

It was decided that the State board would call a conference at an early date between the various administrative officers specially interested in the enforcement of the new milk law, which goes into effect on October 1. The object of the conference would be to outline the most effective methods of co-operation.

The case of a physician and health officer who had failed to report certain cases of typhoid fever was considered. On his assurances that the omission was accidental, at a time when he was unusually busy, and that there would be no repetition of the offense, the board decided not to prosecute. Failure to report a communicable disease is a misdemeanor and is punishable by a fine of not less than twenty-five or more than five hundred dollars, or by imprisonment for a term of not more than ninety days, or by both such fine and imprisonment. The list of diseases which must be reported is as follows: Anthrax, beri-beri, cerebrospinal meningitis (epidemic), chickenpox, cholera (Asiatic), dengue, diphtheria, dysentery, erysipelas, German measles, glanders, gonococcus infection, hookworm, leprosy, malaria, measles, mumps, ophthalmia neonatorum, pellagra, plague, pneumonia, poliomyelitis, rabies, scarlet fever, smallpox, syphilis, tetanus, trachoma, tuberculosis, typhoid fever, typhus fever, whooping-cough, and yellow fever. Gonococcus infections and syphilis are to be reported by office number only, names and addresses of patients not being required.

A petition was received from stockmen of Modoc county asking for a modification of the quarantine against rabies, in accordance with the regulations of the board, so that dogs could be used during the daylight hours in herding sheep, if under constant supervision. The previous action of the secretary in granting this petition was confirmed by formal action of the Board. No change was made in the regulation forbidding the moving of dogs into, and out of, the county.

The board decided to undertake, during the summer of 1916, in co-operation with the University

of California, a survey of malaria and mosquitoes in California, under the direction of Professor W. B. Herms, Consulting Parasitologist of the State Board of Health.

The following resolution was passed, placing on public record the attitude of the board toward full-time service: Resolved, that the full-time officers of the State Board of Health are not permitted to accept fees for professional services, either for themselves or for their bureaus.

A petition was received from residents of Broderick, Yolo county, relative to standing waters, dangerous to health, and an investigation by the Bureau of Sanitary Engineering was ordered.

A permit was granted to the City of Compton to discharge sewage effluent into Compton Creek, in accordance with the recommendations of Mr. C. G. Gillespie, director of the Bureau of Sanitary Engineering. A permit was granted to dispose of the sewage of a privately-owned system at Colma through sub-surface irrigation.

On the recommendation of Miss Anna C. Jammé, director of the Bureau of Registration of Nurses, certificates as registered nurses were granted to two candidates, and the following hospitals were accredited for one year: Orange County Hospital at Orange, and the Anaheim Sanitarium at Anaheim. The board decided to send Miss Jammé as its representative at the annual meeting of the American Nurses' Association in New Orleans, April 27 to May 3, 1916.

Ninety-eight cases of alleged violations of the foods and drugs laws had been set for hearing at this meeting, and the defendants or their attorneys appeared in person in forty-one cases. Most of the cases were referred to district attorneys for prosecution.

W. A. SAWYER, Secretary.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Lyster's Prepared Casein Diabetic Flour.—Milk casein to which has been added a leavening mixture, sodium chlorid and saccharine. Used in the form of muffins in diabetes, etc. Lyster Bros., Andover, Mass. (Jour. A. M. A., February 26, 1916, p. 653).

Antistreptococcus Serum Rheumaticus, Squibb.—Produced from strains of streptococcus from the joints and blood of cases of rheumatism. The serum is intended for use in cases of acute articular rheumatism. E. R. Squibb & Sons, New York (Jour. A. M. A., February 26, 1916, p. 653).

ITEMS OF INTEREST.

Hypochlorites in Infected Wounds.—Dakin points out that he claims no credit for the "discovery" of the "new antiseptic." He explains that the "new antiseptic" was discovered by Berthollet in 1788. The solution used by Dakin and others is essentially the well-known Labarraque's solution or solution of chlorinated soda. The claims as to the efficiency of the various modifications which are being used in France and England are decidedly

contradictory. The one conclusion which all results with the various hypochlorite solutions appear to justify is that hypochlorites, whether applied in an acid solution, in an alkaline solution or in a neutral solution, are of genuine value in the treatment of infected wounds (Jour. A. M. A., Feb. 5, 1916, p. 430).

The Therapeutic Value of the Hypophosphites.—At the request of the Council on Pharmacy and Chemistry, Dr. W. M. Marriott, Johns Hopkins University, has examined the evidence for and against the therapeutic value of the hypophosphites. Experiments were carried out to determine the "food" value of hypophosphites. The hypophosphites were introduced into medicine by Churchill in 1858 on the basis of an incorrect theory and utterly insufficient and inconclusive clinical evidence; their use has been continued without justification by any trustworthy evidence for their efficiency. By actual trial on human subjects Marriott shows that at least 85 per cent. of the ingested hypophosphites are excreted unchanged. Further, he holds that there is no proof that the remaining 15 per cent. is available to the organism. It is doubtful if there are any conditions in which the body suffers from lack of phosphorus. Marriott concludes that there is no reliable evidence that hypophosphites exert a physiologic effect; it has not been demonstrated that they influence any pathologic process; they are not "foods." If they are of any use, that use has never been discovered (Jour. A. M. A., Feb. 12, 1916, p. 486).

The Effect of Opium Alkaloids on Respiration.—D. I. Macht has reinvestigated the effect of opium alkaloids on respiration. He divides the alkaloids of opium in two classes: In the one class is morphine, the prominent sedative alkaloid, which may not interfere with efficient respiration when the dose of the drug is small. In contrast with this are narcotin, papaverin, narcein, thebain and cryptopin, all of which are stimulants and in large doses are excitants of the respiratory center. Codeine belongs to the morphine class though in large doses it may also excite the respiratory center. The action of mixtures of opium alkaloids is a summation of their individual effects. It thus appears that if the object sought is a reduction of the labored activity of the respiratory muscles in a given case, the drug opium itself or mixtures of its alkaloids are to be preferred to morphine alone. If, on the other hand, it is desired to diminish the excitability of the cough reflex mechanism, it seems that a simple substance, as morphine or codeine, is to be preferred (Jour. A. M. A., Feb. 12, 1916, p. 514).

Fermented Milk.—While there is no conclusive evidence that *Bacillus bulgaricus* is able to establish itself in the intestine in such a way that other bacteria are driven out, it is undoubtedly true that in many cases marked improvement has resulted from the ingestion of milk cultures made from it. It is by no means certain, however, that the results which have been obtained by the use of milk cultures have been attributed to any peculiar virtue in the organism itself. The beneficial effects of a sour-milk diet is attributable, perhaps, not so much to the bacteria contained in the milk as to the milk itself, which provides material for an acid fermentation in the intestine. Fermented milks are so well tolerated in many cases that their use should in general be encouraged from the standpoint of nutrient values, quite apart from the problematical "autointoxication" propaganda (Jour. A. M. A., Feb. 19, 1916, p. 574).

Diarsenol.—Diarsenol, Synthetic Drug Company, Toronto, Canada, is said to be chemically identical with salvarsan. It has not been examined in the A. M. A. Chemical Laboratory nor do any reports of trials appear to have been published which demonstrate its value or safety. As salvarsan is covered by United States patent the American agents for salvarsan will probably object to the sale in the United States of a substitute (Jour. A. M. A., Feb. 19, 1916, p. 590).

FIRST AID COMMITTEE.

The president has appointed the following:

Dr. F. K. Ainsworth, San Francisco, Cal.

Dr. T. W. Huntington, 516 Sutter street, San Francisco, Cal.

Dr. A. Miles Taylor, Head Building, San Francisco, Cal.

Dr. Emmet Rixford, San Francisco, Cal.

Dr. G. Cochran, Los Angeles, Cal.

Dr. C. D. Lockwood, Pasadena, Cal.

IT PAYS THE MANUFACTURER TO MAINTAIN ETHICAL STANDARDS.

The notice of the removal of the Dextri-Maltose manufacturing plant from Jersey City to Evansville, Ind., deserves more than passing attention. It furnishes evidence of the natural growth of a manufacturing enterprise which is now vacating its old factory with 18,000 square feet of floor space for a new location in the Central West and in a new plant with 300,000 square feet of floor space—sixteen times larger than the old one.

This removal from a comparatively small to a very large housing also affords striking proof that success awaits the manufacturer who produces something the physician really wants, and markets his products in accordance with the standards set up by doctors for the sale of products they use. The first commandment for the direction of the manufacturer under these standards is: "Thou shalt not offer to both physician and public, by advertising or otherwise, anything which requires medical skill to properly use."

This commandment has been ignored by some manufacturers of infant foods, who have persistently educated the public with pseudopediatrics, thereby tending to increase infant mortality and hampering the physician in the practice of scientific, or even rational infant feeding.

But ultimate reform in the manufacture and sale of infant foods was as inevitable as the reform that has taken place in the sale of pharmaceutical products. The day of mystery and tradition in infant feeding is passing rapidly.

The recent simplification of bottle feeding, rendering it possible, without impractical complication, for the family physician to successfully adapt the diet to the individual baby, has brought about a strong conviction that the direction of infant feeding is distinctly the proper work of the physician.

This conviction has in turn created a demand for forms of carbohydrate foods which can be freshly prepared in exact proportions to meet clinical indications; and for their sale without directions for use, so that the physician can personally control the administration of the food.

The firm, which announces herewith its removal from the east to larger opportunities in the west, early recognized the requirement by the medical profession for a product used in infant feeding, made and sold exclusively for physicians, with no appeal, nor information to the public.

This firm deserves no special commendation for the course it has pursued, it being its duty to follow it. Reference to the sales of Dextri-Maltose is made simply to show that it is remunerative for manufacturers to treat the medical profession fairly.

GOVERNMENT OPENS A FREE EMPLOYMENT BUREAU FOR FARMERS AND OTHERS SEEKING HELP IN SAN FRANCISCO.

The Government has opened a Free Employment Bureau and Labor Exchange in the United States Appraiser's building, San Francisco, for the purpose of bringing the job and the jobless together without cost to employer or workman.

Every postoffice is supplied with blank forms of application for the benefit of farmers and others who seek help, and the man who wants employment. These blanks are transmitted through the mail to the office of the Bureau in San Francisco

without postage. This service is free to the employer and employee. Applications can be made with the blank forms, by telephone, letter or personal call.

Furthermore, it is the object of the bureau to promote a beneficial distribution of the unemployed in the congested communities throughout the country and bring the landless man to the manless land. It is also a division of information for the benefit of the prospective settler, the farmer in need of help, and the person seeking work.

All applications are honored by registration, and an effort made to supply the demand.

A corps of efficient officers have been detailed by the Commissioner of Immigration at this port, to attend to this work exclusively.

The division is a branch of the Bureau of Immigration, under the supervision of the United States Department of Labor, Washington, D. C.

IN RE: RESOLUTIONS OF ENDORSEMENT OF CALIFORNIA STATE BOARD OF MEDICAL EXAMINERS, AND OF DR. WM. R. MOLONY OF LOS ANGELES.

"At a meeting of the Board of Councilors of the L. A. County Medical Association, held January 24, 1916, Dr. Wm. R. Molony, a member of the Los Angeles County Medical Association, and President of the California State Board of Medical Examiners, addressed the Board of Councilors on the work of the California State Board, and also on the communications sent by him to the Journal of the Medical Society of the State of California, and the editorials of that Journal in regard to the same, and so on.

"On motion by Dr. Stanley P. Black, it was voted that the Board of Councilors of the Los Angeles County Medical Association express the confidence of that Board in the work of the California State Board of Medical Examiners, and of Dr. Wm. R. Molony's part therein; and that the Secretary be instructed to write a letter to that effect to the Editor of the Journal of the Medical Society of the State of California, with a request that this action be printed in the Journal of the State Medical Society; also that a notification of this action be sent to the Board of Councilors of the Medical Society of the State of California; and that the action taken also be printed in the Bulletin of the Los Angeles County Medical Association."

NEW MEMBERS.

Smithwick, John Milton, San Francisco.
McClelland, James Hugh, San Francisco.
Taylor, C. E., San Francisco.
Dotson, E. E., Escondido.
Scott, G. S., Ramona.
Thomas, Robt. W., San Diego.
Chartres-Martin, E. P., San Diego.
Pickard, R. J., San Diego.
McGinnis, Geo. H., San Diego.
Wessels, A. B., San Diego.
Andrews, H. F., San Diego.
Ream, Wm., San Diego.
Anderton, Herbert S., Burlingame.
Dykes, J. P. H., Redwood City.
Moodie, Alex. Russell, Redwood City.
Powers, Allan R., South San Francisco.
Lynch, Wm. Carson, Belmont, Cal.
Downing, W. E., Rio Vista, Cal.
Walker, Wm. H., Willows, Cal.

DEATHS.

Crediford, D. B., Rialto.
Goyer, Edw. H., Eureka.
Gale, Herbert A., San Francisco.
Bush, I. Chas., Santa Cruz.
Callihan, Robt. (Died in Rohnerville, Cal.)
Bailey, Chas. A., Los Angeles.
Heryford, H. W., Millville, Cal.
Bangs, F. H., San Jose.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Fayette W. Birtch, M. D.

René Blin, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - - - Butler Building,
State Journal, - - - San Francisco.
Official Register, - - -

Telephone Douglas 2537

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV MAY, 1916 No. 5

EDITORIAL NOTES

THE FRESNO MEETING.

The 45th Annual Session of the Medical Society of the State of California, held at Fresno, April 18, 19 and 20, 1916, was a very distinct success. About 325 registered, and even though this is the busiest time of year for the hotels in Fresno and there was some little trouble in getting all of those in attendance properly cared for, still this was done with the assistance of the Local Committee and everybody seemed pleased. The thanks of the profession are certainly due to the members of the Local Committee of Arrangements, all the members of which worked overtime to help things along.

As it is so late in the month when the meeting closes, and as there are so many important reports to prepare, it is not possible to publish in this issue of the JOURNAL the full minutes of the session.

The elections resulted as follows:

Dr. George H. Kress, Los Angeles, President.

Dr. L. R. Willson, Fresno, 1st Vice-President.

Dr. John C. Yates, San Diego, 2d Vice-President.

Dr. Philip Mills Jones, San Francisco, Secretary.

All of the outgoing Councilors were re-elected with the exception of Dr. Kress, and in his place Dr. Clarence Moore of Los Angeles was elected Councilor.

The place of meeting for the session of next year was made San Diego (Coronado).

A great deal of very important business was transacted, and the attention of every member is earnestly requested for the consideration of these matters when they appear in the next number of the JOURNAL.

VIAVI AND THE UNIVERSITY OF CALIFORNIA.

On March 2, it came to the attention of the Secretary of this Society that in some peculiar and unfortunate way, Dr. Hartland Law—one of the proprietors of that notoriously fraudulent nostrum, Viavi—had been engaged to deliver a course of lectures on salesmanship under the auspices of the Extension Lecture Department of the University of California.

Thinking that lack of knowledge of the facts relating to the disgraceful calling of the Law person might have misled the University authorities into employing him, Dr. Jones wrote to President Wheeler on March 2, placing the necessary information before him, suggesting that the course of lectures be stopped, and asking for information as to what might be done.

No satisfactory word was received, and therefore Dr. Jones appeared before the Board of Regents at their regular meeting on Tuesday, March 14, and explained the situation fully to the Board, incidentally calling their attention to the fact that in all probability Law would use this quasi connection with the University for advertising purposes.

The course of lectures was stopped, the last one being given March 16.

That the danger pointed out by Dr. Jones was in no way imaginary was shown clearly about a week later, when a San Francisco morning paper announced a course of lectures before the Business Men's Club by "Dr. Hartland Law of the University of California." It was still further shown, in a rather amusing way, when Dr. Law returned a check sent him by the Treasurer of the University in payment for the lectures which had been given, and which check was made out to the order of Dr. Hartland Law. Dr. Law returned it, with the statement that it was improperly made out and should have been made out to Dr. Hartland Law, Lecturer in the University of California. The check was canceled and his bill paid in currency. Undoubtedly such a document would have been photographed and widely circulated in boosting the fictitious and fraudulent claims of that most disgraceful and dishonest fake from which the Law brothers have amassed their ill-smelling fortunes.

OUR LIBEL SUIT.

The libel suit brought by the sanctimonious Mr. Patten, one time Chairman of the Book Committee of the American Book Concern, which is the important part of the Methodist church, and proprietor of the Wine of Cardui, a patent medicine largely advertised and sold through the South and in prohibition States, is now on in Chicago. It will probably be a long and hard fought suit, and it is to be hoped that no technicality of law or no bias will permit even a shadow of support being given to a man and a concern of this kind. A full account of the matter will be published when it is all over.

TAKE WARNING! HEALTH INSURANCE.

"In the ordinary family things run this way," says the *American Magazine*, "The head of the house is earning enough to support those dependent on him and lay by a little for the rainy day. All goes well until some member of the household has an accident or is taken sick. Then expenses pile up—sometimes in excess of the earning power of the man of the family. Many . . . have experienced the sensation of paying out more in a month for doctors and nurses than they have received in salary or income."

"Doctors and nurses," to which we might add dentists, druggists, hospitals and undertakers. And while the above served the *American* as an introduction to an article by Richard Cabot, wherein he makes a plea for more team work among doctors—group diagnosis and group treatment—a plea well worth listening to (even though Cabot makes several assertions to which we may rightly take exception), we would use it as an appeal to the profession at large to devote some little study to the question of health insurance.

Industrial accident insurance has in a great measure replaced the old scheme of employers' liability. Physicians in this state well remember how they at first objected to the medical features of the plan, and how ineffective their resistance proved. And even now, as we write, we see one County Society declaring that "no fee bill for industrial accident insurance work be accepted again by the State Medical Society." But as in the past, no better scheme is proposed. *La critique est aisée, l'art est difficile.*

The industrial accident laws have not been so hard upon the profession as many would have us believe. On the other hand, they have probably done something toward raising the standard of the care usually afforded the class of patients involved. While they may have made a few malingers among workmen, and developed a few notorious "padders" in the medical profession, still, on the whole, the results have been far from bad.

But good or bad—medically, is not what counts. There are some 150,000 physicians in the U. S., one to each 600 of population. A goodly number, it is true, and surely a body of sufficient magnitude to warrant their obtaining great consideration at the hands of law-makers. But what of the 20 to 24 million of the working class earning less than \$1000 a year, who require but cannot always afford medical care? They are not only a great political power—they are a large percentage of the great public whom we serve, and who look upon us as their servants.

"Sickness" or rather "health insurance" is in the air. The magazines are discussing it. Social workers are investigating it. Commissions are being appointed for its study. Before we know it, it will be upon us. How are we to face it?

It is true that the success of sickness insurance depends largely upon the successful organization of medical aid. But if the profession has no views, no plan to suggest, insurance companies and commissions will have, and it is in order to arouse

interest in these live issues that we reproduce an editorial which appeared in the *N. Y. State Journal of Medicine* of February, 1916, apropos of a Health Insurance bill introduced in their legislature.

RECORDS.

Once more we refer to the very important subject of records. This time it is brought forcibly to mind by two suits which have been filed quite recently against members of the Society in San Francisco. In one case the physician who originally treated the patient kept very careful records and insisted that the hospital keep careful records of everything that happened. Subsequently when this patient, becoming dissatisfied, went to another hospital and came under the charge of other physicians, they too kept careful records of everything. This suit, should it ever come to trial, will not be a difficult one to defend, for the reason that the record was complete and it can be easily shown that the physician member sued did everything consistent with due care, skill and judgment. In the second case the condition of things is entirely otherwise. Not only did this physician keep no records, but there is no record in the hospital of his connection with the case. He is a man of rather poorer memory than the average and it is going to be exceedingly difficult to present to a jury, should it come to that point, satisfactory reasons and explanations for a number of things in connection with the treatment. Nothing is so simple as to be unimportant; a cut finger may eventually mean a lost arm or a dead body, and it may be necessary for the physician who treated the cut finger to explain. You may think it too much trouble to keep careful records of your work from day to day, but you will sadly and regretfully wish that you had them in the event that a suit is filed against you and you find yourself without records.

NEW AND NON-OFFICIAL REMEDIES.

This publication of the American Medical Association through its Council on Pharmacy and Chemistry, has just been issued for the year 1916. It is one of the most valuable books now being published in the United States, and it is a pleasure to reprint portions of the letter received advising of the publication of the book. The price is \$1.00 postpaid, and it can be had of the American Medical Association, 535 North Dearborn street, Chicago, Ill. A copy of it should be in the office of every live, up-to-date practicing physician:

The profession as a whole does not as yet fully appreciate the character, the scope and above all the practical value of this book to the practicing physician. Perhaps it is because its size is so unpretentious, the price asked for it so small and the contents so conservative and unsensational in character that a hasty and superficial examination does not reveal its true worth.

Although it may be an old story to you, will you allow me to emphasize anew some of the important points in connection with this book? New and Non-official Remedies, in the first place, contains descriptions of the newer remedies that are worth the physician's con-

sideration. Being issued by the Council on Pharmacy and Chemistry, which is composed of chemists, pharmacists, pharmacologists and clinicians of the highest standing, it is authoritative; in fact, it is recognized as the standard authority on the newer remedies. When besieged by too persistent detail men, many up-to-date physicians fortify themselves behind N. N. R., taking the stand that they cannot afford to waste time on any preparation which has not gained admittance to its pages.

In the second place, N. N. R. furnishes the physician who has learned how to use it with the answers to a great many perplexing questions that arise in the course of daily practice—and in many instances it is the only book which does furnish this information. What is the distinction between the action of acetylsalicylic acid (aspirin) and that of the other salicylates? What is the comparative toxicity of the various cocain substitutes? What manufacturers furnish Bulgarian bacillus preparations—medicinal foods—organ extracts? What is the iodine strength of the non-official organic compounds of iodine compared with the official iodins? What is the standing of pneumococcus vaccine—of the Schick test—of radium therapy? Look in N. N. R.; it is all there.

I believe that you will be doing a good deed if you can make your readers feel that, in owning and consulting N. N. R. they are not merely forwarding the worthy cause of therapeutic reform; they are but doing justice to themselves and their patients. In fact, they cannot afford to do without it.

Yours truly,

W. A. PUCKNER, Secretary,
Council on Pharmacy and Chemistry.

WAIVER OF PRIVILEGE.

A great many doctors seem to be delightfully vague and misinformed on the subject of professional privilege, so-called. This falls into what is known in the law as a confidential communication, or privileged communication, and is classified under the list of subjects which may not be introduced in court or in any judicial proceeding, save and except that the person entitled to the secrecy and the person who would be injured by its violation waives this privilege. In other words, the privilege is not with the physician; it is with the patient. The physician is placed in the position of a trustee of the confidence of the patient, and one of the most serious violations of an obligation known to the law is that of the violation of the duty of a trustee. To what extent this privilege may be waived under varying circumstances is a matter determined differently in the different States. It is held, however, as a rule of law in all States, that the patient may expressly waive the privilege. Constructive waiver, however, is another matter, and some States look upon constructive waiver of privilege very unfavorably. In general it may be said that if the patient brings an action at law involving the professional relation with the physician, it is held to be a constructive waiver. Communications from physician to physician are not considered violations of the privilege, for the reason that any other physician taken into the confidence of the original physician of the patient becomes by that act a co-trustee, and the patient's privilege of secrecy extends to such other physician or physicians as may be entrusted with the confidence.

DR. BLOODGOOD AND CANCER.

Dr. Joseph C. Bloodgood of Johns Hopkins was the honored guest of California in March and part of April, and during his visit delivered many addresses on the subject of cancer, its cure and prevention. He came here on the invitation and under the auspices of the California Academy of Medicine and while in San Francisco was the guest of the President of this Society, Dr. Harry M. Sherman. Not in any way to disparage the remarkable work in the pathology of cancer which has been done by Dr. Bloodgood, but with full recognition of that, the opinion may be expressed that probably the greatest good which Dr. Bloodgood has done or is doing is the creation of a distinct publicity movement along the line of public education. In newspaper language, Dr. Bloodgood has become "good copy"; that simply means that the newspapers will gladly publish reports of his addresses, etc., for the reason that their readers take an interest in them, possibly some of the interest, if not a good deal of it, being due to the fact that they are connected with the name of such a distinguished person. Whatever the cause, or whatever the reason, it is a most desirable condition, and we must congratulate Dr. Bloodgood and also the general public.

THE HARVEST OF THE REAPER.

Not within one's recollection has the Reaper of the human harvest gathered so much of the greatest value to humanity in such a brief space of time as in the last few months. In quick succession went: Favill, one of the most remarkable men that American medicine has ever known, and one of the sturdiest upholders of everything that was for the right, for good, and for betterment. Part Indian he was, and proud of it to his finger tips. A better or a cleaner fighter for what he knew to be right never lived. Rodman, distinguished surgeon and President of the American Medical Association, actively interested in many things for the betterment of the medical profession and very widely for the betterment of the people. Up to the day of his death he was keenly interested in enlarging the Medical Corps of the Army, and in creating an active interest in first aid work and the prevention of unnecessary mutilating accidents. Bob Townsend of New York, for many years Secretary of the New York State Medical Society, and one of the most brilliant orthopedic surgeons in the country. Keen, bright, active, always working for the best in medicine and the best in medical organization. Lutz, the Nestor of the medical profession in Missouri, a man loved by every Missourian and, indeed, by everyone who knew him; a trustee of the American Medical Association and one of the Association's most valuable servants. In our own State, to mention but one, Rose Bullard, one of the most prominent women surgeons in the country and distinctly a leader of the women in medicine in California. It is indeed truly harder for those who remain than for those who do not.

HEALTH AND THE WOMAN MOVEMENT.

Practical helpfulness for women by a woman who knows is rare and unusual; and this is said in spite of the knowledge of possible violent adverse criticism. However, it is apropos of the above, which is the title given to a little book, or pamphlet, written by Dr. Clelia Duel Mosher, Medical Adviser to Woman at the Leland Stanford Junior University. Dr. Mosher has had a large opportunity to observe many practical things in relation to developing womanhood, and she has made good use of her powers of observation. Practical common sense is distributed with remarkable freedom throughout the pamphlet, and if a thing of this kind could be put in the hands of most women it would do more to put an end to such frightful fakes as Viavi than any other one thing. A few sentences will suffice to point out this feature of the book: "The average woman needs more water inside and out." "Bath: take, for example the question of bathing. Why should a woman alter all her habits of life so sharply at the time of menstruation? This alone is sufficient to account for many of her symptoms. . . . The average woman has been taught to have a phobia toward water at the menstrual period." This little book can be had from the Stanford Book Store, Stanford University, California, and is sold for twenty-five cents.

POST-MORTEM EXAMINATIONS.

What little statute law there is in this State referring to post-mortem examinations is to be found in the Penal Code under the classification of dead bodies. The rights and duties of various parties in connection with dead bodies have been a subject of some little controversy in the law. The subject is somewhat vague, but a few things are pretty definitely settled. In the first place, there is no property right in a dead body. In the second place, however, the nearest relative (as the widow or widower) is entitled to the un mutilated remains, to be delivered to him or her for the purpose of securing proper lawful disposition thereof. Unless there has been some question of criminality, or unless the case is one falling within the domain of the coroner, who may order a post-mortem, such a proceeding should never be undertaken without the written consent of the nearest relative or heir. It is held that the unauthorized mutilation of the dead body may cause mental pain, suffering and anguish to the nearest relative or heir, which pain, suffering or anguish is susceptible of balm in the shape of damages. In one case, where a man died and the brother and sister of the widow authorized the physician to do a post-mortem, and thereafter the widow discovered that the post-mortem had been made, she brought suit against the physician who did the post-mortem and recovered damages in the sum of \$1000. Be careful about doing promiscuous post-mortems no matter how much you desire to illuminate the gloom concerning the exodus of the deceased.

SUBSCRIPTION SWINDLERS.

The Journal of the American Medical Association for some months past, and indeed from time to time for a number of years, has called attention to the various forms and methods employed in securing fake subscriptions not only to the Journal of the A. M. A., but to other publications. In fact, they have issued a little pamphlet, reprinting a number of these articles and entitled "Subscription Swindlers." Apropos of this comes a letter from Dr. Gundrum, Secretary of the Sacramento Society, which is so directly to the point in question that we give it herewith:

I am in receipt of a letter from a doctor, a member of this Society residing in a neighboring town. This letter relates an experience recently had by this doctor which I think will be of interest to you, and which I would be very glad if you would publish for the possible protection of some of our doctors and possible apprehension and jailing the supposed agent. This person who signs his name J. Victor, and purports to be representing a Petaluma book concern which sells all sorts of books, medical and others, accepts money for orders and then quietly fades away. Inquiry at Petaluma reveals the fact that there is no such concern. The chief of police of Petaluma states that he has had some previous inquiry for this man, who, it seems, has been working the game all over the State. If the next doctor who receives a call from J. Victor will let the sheriff know by telephone he will no doubt confer a great favor upon the medical profession and the public at large.

Very cordially yours,
F. F. GUNDRUM,
Secretary-Treasurer.

INDUSTRIAL ACCIDENT INSURANCE.

Quite a few complaints have come in that in certain instances, where the physician had done an unusual amount of work, he was paid only the amount specified in the fee schedule. On investigation it was found that this is practically without exception the doctor's own fault. Where he encounters a case which offers complications, difficulties, unusual requirements or the like, or where he has to go to unusual effort or expense, or in the event that a disproportionate amount of his time is taken up, if he will specify these matters in sufficient detail to the companies, his legitimate bills will be paid. Several specific complaints have been received which will be taken up at no distant date by a Grievance Committee, representing the insurance companies, the Insurance Commission and the State Medical Society.

PROPER FOOD FOR YOUNG CHILDREN.

The United States Department of Agriculture is doing an excellent and most highly commendable work in sending out carefully prepared bulletins on most practical subjects. For instance, Farmers' Bulletin 717, entitled "Food for Young Children," has recently been issued by the Department and deals very exhaustively, but very practically, with the kind of food, times of feeding, varieties of diet lists, etc., which are best adapted to a growing child and one who is going to school. It is hard to imagine any mother taking the usual interest in

the proper growth and development of her child which mothers take, not reading a bulletin of this kind with the greatest interest and to the greatest profit of her child. Those of our members who are in general practice and come in contact with children may well remember to recommend to the mothers of their little patients the careful reading of this Farmers' Bulletin 717.

SOCIAL INSURANCE.

(From the New York State Journal of Medicine.)

The JOURNAL has previously called attention to the fact that the last legislature created a Commission to Investigate and Report upon Systems of Social Insurance and appropriated \$20,000 for the use of the Commission in carrying out its work. The members of this Commission are as follows: Dr. Flora W. Smith, Kingsburg; Katherine Felton, San Francisco; George H. Dunlop, Hollywood; Mrs. Frances N. Noel, Los Angeles, and Paul Herriott, Sacramento. Miss Barbara Nachtrieb has been appointed Secretary of this Commission, and Mr. Rubenow is coming on from New York to do some work with the Commission.

The Commission has addressed the State Medical Society, requesting the appointment of a committee from our Society to consult with and advise the Commission, and it has also requested the appointment of a similar committee from the Commonwealth Club of San Francisco. These committees will be appointed and in operation by May 1st.

In this connection, the following article taken from the *New York State Journal of Medicine* will be of great interest. It should be carefully read and studied by every member of our Society. There is not the slightest doubt that sickness insurance will be created by statute in this State before many years have gone by, and we should be the first to assist in constructing legislation so that it may be at the same time to the best interests of the public and of the medical profession.

Any health insurance laws in this state affect the medical profession so intimately that it has seemed wise, with the publication of the accompanying bill already presented to the legislature, to publish some discussion of the possible effect on the profession. Similar laws in Germany have borne severely on the medical profession and injured their income. In England, similar laws have increased the income of the medical profession but given inferior medical care to the poor. In this present bill, in this state, the medical regulations and the detail of the working of the law, as far as the medical profession is concerned, are to be left to regulations by the commission, which will be flexible and capable of change as circumstances may demand. They are not put into the law as a hard and fast inherent part of the state laws. It is well, however, that the medical profession should consider these regulations well in advance, and be prepared to co-operate with definite ideas rather than to do as the profession of England did,—remain indifferent to the whole thing until the law had been passed and then fail to obtain regulations that might easily have been secured had the matters been properly adjusted beforehand.

In considering any scheme of medical relief under the Sickness Insurance Act one must consider

it from three points of view: the medical point of view, the patient's point of view, and the view of the insurance carriers.

In beginning the consideration of the medical point of view, it is necessary to consider certain medical customs and habits of thought. The medical service is always an individual one, and the state requires it to be individual. Medical public opinion demands that the physician shall give an adequate and just service to his patient, and that the physician shall not permit himself to be placed in positions where he gives careless, incompetent service, to the injury of those under his care. Any physician neglecting this standard loses caste. He is condemned by his colleagues, and the position or system in which such service is likely to occur is held in contempt by the profession, and has been classified under the opprobrious name of "contract practice." All medical service is really a contract, and many physicians under salaries, such as with insurance companies or railroads, are not condemned, nor do they lose caste by accepting such contracts. But any contract which carries with it an unreasonable amount of work by the doctor, which in turn forces neglectful, hurried service to the patients, is always condemned. These situations are usually found in certain lumbering and mining camps and under other corporations, and in the familiar lodge practice in large cities.

Lodge practice and other condemned forms of contract practice are all under the capitation plan of remuneration, and the capitation idea of service under sickness insurance has necessarily these inherent faults which cannot be eradicated and can only be controlled to a limited extent if they can be controlled at all. By this form of capitation is meant the per patient per year form of payment to the doctor. Another form of capitation which is used abroad is frequently used in a compromise with the free choice system of the doctor by the patient; that is, a sickness society has a certain amount of funds that it can pay for medical services to the doctors. This lump sum it gives to some association of doctors, and the physicians charge up each visit and each act of service rendered to each patient as so many points of work done against the medical society. Usually every three months each physician hands in his account to the medical society, and the total number of points are divided into the total amount of funds, and the remuneration paid to the physicians pro rata. The two faults in this country for this method are, that there is no society or association of physicians which is sufficiently universal in its membership to justify such a procedure, for many men who would work among the working classes do not belong to the medical societies, and if any control was attempted through the present societies, there would be many doctors working among the insured who would be beyond such control; and, furthermore, in times of great amount of sickness, the more work that is done the less is each point of service worth, and after a certain amount of services have been given by the physicians, the more work they do, the less money do they receive in ratio to work done. If the total amount paid by the societies remained the same, and if twice as much work were done by the doctors in an epidemic as in an average year, each point would be worth half as much and the remuneration would be the same under great stress of work as under an average year. This is not just remuneration, and would soon bring a resentment on the part of physicians because of undervaluation of their work and the injustice in it, and there soon would develop a situation similar to the other form of capitation of overcrowded work and the underpaid men.

There is, in some parts of Germany, the regularly paid physician under definite salary from the society. This might or might not work out well,

because it would be a similar form of contract to that of the railroad surgeons, but it would be very liable in sickness insurance to be abused, and soon the inherent faults, as in capitation, would develop. Moreover, any sickness insurance society could only hire a certain number of physicians, and unless they arbitrarily refused free choice of physicians to their members and divided them in equal numbers among their salaried physicians, the natural difference in personality of the physicians would immediately cause some of their practices to be overcrowded while others were neglected, and again the inherent faults under capitation develop.

One comes to the other form of medical service—that of visitation, i. e., a stated fee per visit per patient, or with a fee graded according to character of services with free choice of the physician by the insured, either with an unlimited number of patients or with a limited number of patients under a panel system, by which a definite number of patients can be apportioned to any one doctor and under which all patients must be apportioned to some doctor,—this with the consent of the physicians and patients; or, absolute free choice of the physician by the patient, with no panel and no control by the commission of the physician through his position on the panel; or free choice of the physician by the patient, with control of the physicians through a series of committees.

It has been generally claimed that free choice of physicians and this visitation method of so much per patient per visit always increases the number of visits and the expense of medical care to the insuring societies. These claims, however, were not substantiated in an investigation of the subject in Manchester, England. There is no question that from the medical point of view the visitation system is the most just. There is no question from the patient's point of view that they obtain by this means the best service. There is less danger of neglectful and overcrowded services being rendered to them; it eliminates the inherent faults of the capitation system, but increases the expense over capitation because it gives a fair return which capitation does not do. It seems to increase the opportunity for malingering and simulation, which, unless controlled, become the bane and ruin of any social insurance system.

The ethics of any profession are but the moral customs of the general community modified to suit peculiar services which that given profession performs, and the ethics of the average member of any profession will not rise any higher than the average of the community in which he lives. In any community, therefore, there will be dishonest physicians whose acts must be controlled that they may render an honest return to the patients and to the insurance carriers. Therefore, this human factor necessitates a scheme by which this control can be most economically and efficiently exerted. The German system of committees composed of workmen and physicians seems to meet this situation the best. For example, the Leipsic sickness fund has a representative Medical Committee of the Society doctors, a Conciliation Committee and an Arbitration Committee. This Medical Committee is composed of twelve members chosen every two years by the doctors in the service of the society. The duties of the committee relate primarily to the constant supervision and the control of the work of the society doctors, also to calculating and dividing the remuneration of the doctors, and to the maintenance of their rights and interests. They scrutinize the charges that the doctors make; they scrutinize the prescriptions of the doctors for other medical or surgical requirements; they scrutinize the number of persons certified by each doctor who are unable to work, and the length

of time of the inability according to statistics prepared by the society; they determine where there has been improper excess of the normal average. In case of serious default, as regards certifying patients as unable to work, the committee deducts from the remuneration of the doctor, for the benefit of the society, the excess charges incurred in consequence of the default in payment of benefit. The committee communicates semi-annually to all the society doctors the result of the statistical preparations on which they have based their work.

This physicians' committee can discipline the doctors when it is found they have been seriously at fault by taking one of the following actions, in addition to making deductions from the doctor's remuneration. They can give him advice or written warning, or, after two unheeded warnings, temporary suspension of from one to twelve months from attendance on society patients. The doctor in default, however, must be heard before a written warning or suspension is invoked. If the doctor has been twice temporarily excluded from the society practice, without result, if the society does not use its rights to give the doctor a notice to terminate his contract, the committee may make request to the Arbitration Committee that the doctor be permanently excluded from society practice. Complaints made by the patient or by the society in regard to the practice of a doctor are brought before this medical committee for its opinion, and the opinion given on the case is communicated to the doctor by the committee. Circulars and directions which the society proposes to issue to the doctors are first submitted to the committee for its opinion; complaints by a doctor against the society have first to be communicated to the committee, which has to give an opinion to the doctor on the complaint. This opinion shall be communicated to the society. Complaints by doctors in regard to members of the society are to be communicated by the committee only if the managing committee of the society does not give satisfaction to the doctor in regard to the complaints.

It is thus seen that this committee stands between the general mass of doctors doing work among the insured and the insuring societies. Although the Leipsic Medical Committee of twelve seems to be too large for the best results, any medical committee is able from its expert point of view to understand the viewpoint of the medical profession, which is peculiar to it in matters of ethics and standards, and it can more readily deal out justice because of this expert knowledge. In this country, however, it has heretofore been difficult to obtain discipline of the members of the profession by committees of the profession. Any development toward this end, in New York state in particular, has been further discouraged by several cases in the courts in which medical societies have endeavored to discipline, by expulsion, members guilty of what was believed to be wrongdoing. The courts have almost invariably forced the societies to reinstate the objectionable members, and have further delivered to the societies a severe scolding because some minute legal technicalities had not been complied with. The profession has felt that the intricacies of the law have blocked the development of medical control by the profession itself, and the regulation of the profession by the profession in New York state has not developed to the extent that it should have done. Whether or not, under a sickness insurance law, adequate control of the medical profession by a medical committee would be possible, cannot be foretold. With this responsibility, however, thrown upon their shoulders, and with adequate rules for protection, through such committees, the medical profession should be able to bring about the desired results. If, however, this is not possible, then the medical profession

must face the issue of whether or not it will be forced to accept a lay control or a combination of control by laymen and physicians.

A special Conciliation Committee should be appointed for deliberation on questions which appear to require consultation between any society and its doctors, and for the friendly consideration of all kinds of differences. In the Leipsic Society, such a committee is further described as consisting of the chairmen of the managing committee of the Sickness Society and of the representative medical committees. Such a committee, however, should be a small committee of but, probably, three members, that its efficiency and activity should be at a maximum, and it should be composed of a workman and an employer and a physician, and should be subject to the call of any one of its members.

The arbitration committee should be composed of workmen, employers and physicians, presided over by a member of the commission, and one member of the committee should be a lawyer. It should be the final committee of appeal from the Medical Committee and the Conciliation Committee, and should be the final committee for discipline of physicians regarding their expulsion, and should hear all appeals made from the decision of the medical or conciliation committees. All appeals and disputes between physicians and the insuring societies or between physicians and any of the insured should also go through it to the commission.

These committees should not serve without pay. The custom of most corporations in this country of paying a gold piece to their directors at each meeting should be followed in these committee meetings to the extent of giving some definite stipend for attendance at the meeting. Work of this character is arduous, and positions on the committees should be honorable positions and recompense should be given for the work done.

In all sickness insurance there is one mooted question that constantly arises, and that is,—who shall decide any dispute between a physician and an insured member as to whether or not this patient should go back to work and his benefits cease? There is always trouble if this work is left to the physician alone. Patients will demand leniency, will go to the doctors who are lenient, and physicians, unless of rugged character, will be afraid of losing their patients and injuring their income unless they are lenient, and thus the expense of the insurance carriers will be enormously increased by a continuance on the sick list of patients who should be at work. If, whenever this mooted point arises, the decision could be referred to some impersonal committee or to some regularly constituted, salaried medical referee, it would enormously improve the working of the insurance act. There will probably be required a medical inspection department under a medical referee or referees to control malingering and valetudinarianism.

There is no intention at this time of going into the details of the regulations necessary for the smooth running of a sickness insurance scheme. That must be left as a matter between the various societies and the physicians on the panel; it must be worked out under the commission, and will undoubtedly vary in different sections of the state. It is doubtful if the remuneration to the physicians per patient per visit will vary much in different parts of the state because the sickness insurance is limited to persons of definitely limited wages. The compensation law now demands that medical service shall be paid subject to regulation by the commission, and shall be limited to such charges as prevail in the community for similar treatment of injured persons of a like standard of living, but does not limit the wages of those employed who are subject to the Act.

From the patients' point of view, efficient medical service is necessary. Any general sickness insurance law among the poor will develop an increase of medical service and demands. Some form of sickness or injury has been the calamity through which the poverty of the poor has been changed to destitution in the majority of those applying to charity for aid, so that often all that has separated poverty from destitution has been the ability of the wage earner to go to work each day. Just so soon as the wage earners realize that they can have medical care as their due, without further expense than already borne by them, it is bound to increase enormously the demands on the medical profession. Of course, after a few years, when they become used to the idea, the mass of trivial and unnecessary calls will diminish, but a certain amount of unsuspected sickness among the poor will come to light and will probably increase the necessities of medical care beyond any calculated expectations. Adequate medical services to the patient must contain, at times, the possibilities of more than the average practitioner can necessarily furnish. The standard demanded from the individual practitioner will probably not exceed that demanded under the English Act, which considers that adequate medical attention and treatment is that treatment of a kind which can consistently, with the best interests of the patient, be properly undertaken by a general practitioner of ordinary professional competence and skill. The physicians of the Book Printers' Sickness Fund, of Berlin, agree to care for all members not requiring hospital treatment, and to expedite recovery to the best of their power. In the Leipsic Sickness Fund, physicians agree to give requisite treatment in accordance with the recognized custom of the medical profession. The English Act does no more than provide the advice of the panel doctor as to how further treatment may be obtained. It fails noticeably to furnish expert care or advice or adequate hospital accommodations; it only attempts to provide this in tuberculosis.

In the sickness societies of Germany there are many specialists to whom the patients may go. The Leipsic society employed 130 specialists and 24 dental surgeons out of its total of 400 doctors; the Dresden Society 64 out of its total of 226. These necessary details of organization must be left to the arrangement of the local societies. There is no doubt, however, but that the details of what is ordinary and what is extra work, such as the difference between day calls and night calls, the difference between office visits and home visits, the detail of the ability of the general practitioner to call in a consultant if he or the patient shall demand it, what shall be the fees under these circumstances, or whether all consultation work shall be done by the medical referees, are all questions coming up for decision.

There is no question that modern medical treatment demands more team work among physicians than was formerly done. The bacteriologic examinations of sputum, of throat cultures, etc., are done in this country free of charge by the city and state departments of health. But X-ray diagnoses and any other special diagnostic procedures must still come under the specialist category.

This brings us to the question of the dispensaries, and back of the dispensaries, the hospitals. Up to this time the dispensaries and the hospitals have been the expression of the amount of free medical care that the city or state governments, or private corporations, were willing to give to the poor. A well conducted and well organized dispensary offers the most economical and efficient method of giving to the patient the many specialized medical services that the varying nature of their illness may require. More diversified medical and surgical work is performed

in the dispensaries than is performed in the hospitals. There is less specialized service in the majority of the hospitals than in any dispensary of even moderate size. But there are more hospitals given over to special work than there are dispensaries so constituted, although most special hospitals have also a dispensary attached to them for the sake of obtaining patients to fill the hospitals. Most of the medical positions in dispensary or hospital are occupied without remuneration, the medical experience being sufficient compensation in this country for whatever time or knowledge the doctor may bestow. Abroad, in certain countries, similar positions have a salary attached to them, and medical men are not expected to give their medical or surgical knowledge and services uncompensated.

Under the Sickness Insurance Law, the general dispensaries present opportunities for an adequate and well developed method of furnishing abundant services in special branches of medical or surgical care to all patients who are not too sick for hospital care and who may require some special service which the average general practitioner cannot give them. The situation, however, will arise whether or not the dispensaries should be confined to the use of the development of the specialties and all the general medical care given in the homes of patients, or whether patients shall be allowed to choose between their own doctor and some general practitioner in the dispensary as far as the general medical care is concerned. This is a question which contains serious possibility of dispute. It may be that the general medical classes of a dispensary may, in the end, be developed into a place where patients may go for expert diagnosis on the plane of the consultant, being referred back to their physician for care or being referred to specialists if such be necessary; the dispensary becoming then an institution for special care or expert diagnosis and not containing, as now, classes in ordinary internal medicine. However this may be decided, medical services rendered in the dispensary must, in future, receive remuneration, and free dispensaries soon be a thing of the past. Physicians in the dispensaries, moreover, must be under control of the committees controlling the doctors in general insurance practice, and if the dispensaries are run by private corporations, it must be within the power of the commission to forbid persons under the Insurance Act to go to dispensaries which do not give adequate medical service. In all probability, if the commission should publish to the insured that a certain dispensary was failing to give adequate medical care, the stigma of such publication would soon force any private corporation to give adequate medical services. The rules and regulations by which patients are permitted to accept the hospital provision of the Sickness Insurance Act will have to be under definite agreement and the care received in the hospitals under definite supervision.

Under the Workmen's Compensation Law, disputes arise because in the same ward one patient will be under the Compensation Law and another not, and any surgeon is liable to be accused by the patient not under the Compensation Law of neglecting him and favoring the man under the Compensation, because of the extra fee given to the surgeon. The Workmen's Compensation Law makes certain poor patients pay-patients and necessarily leaves others out of this category. Sickness Insurance Laws will probably act in the same way in the medical wards in the same hospitals, and the human element of envy and resentment on the part of the patients will bring many disputes and complaints of the service rendered to them. It is doubtful if the attending physicians and surgeons in the large public hospitals should take positions on insurance panels. It would seem wiser if they did not. They usually have reached a position in their profession where their

private practice is not among those persons who will be insured by the Sickness Insurance Act. It would seem wiser, therefore, that it should become a custom that the attending physicians, at least, should care for all alike without remuneration, and that the special work required by the Sickness Insurance should be done by some assistant and not by the attending physician. The attending physician, therefore, in charge, would give his services to all alike, and there could be no criticism or envy on the part of the patient for care received. The decision required by the Sickness Insurance Act as to when the patient was ready to leave the hospital and go to work, of filling out the certificate necessary under the working of the Act, the special daily hospital care and attention required, should be done by some assistant against whom the question of unequal attention between patients could not arise. Adequate supervision of smaller hospitals in which there is no house staff must be formulated by the commission, for there is no question, as stated above, that adequate medical and surgical service must be given and must be controlled, whether this service be in the homes of the patients or in the hospitals and dispensaries to which they may go.

From the point of view of the insuring societies, they must realize that they must give to the medical profession an adequate remuneration for work done, and in return for a just fee they have a right to demand that the service given shall be of full time and medically adequate. The German method of giving generously a little more than the strict letter of the law demands in drugs, spectacles, trusses and all medical and surgical apparatus to the insured, should be followed rather than the inadequate English method of giving only the cheapest medical and surgical appliances and refusing to give adequate spectacles or other surgical appliances because they are of more than average expense. The result in Germany has been a diminution of the length of time that medical benefits have been paid, and the result in England has been a long continuance of patients on the sick lists drawing money benefits. Judging from the Fabian report, the English method has been truly one of "penny wise, pound foolish."

We have considered here the working and necessities of medical care and control under a compulsory sickness insurance as exemplified chiefly in England and Germany, as these two types of compulsory insurance give the best examples of the results of the various methods employed for the carrying out of compulsory sickness insurance. Many difficulties of administration and many failures in administration have developed in both countries through the employment of the capitation plan of remuneration to the physicians. In Germany this has resulted in bitter animosity between the medical profession and the insuring societies, and bitter contests for increased remuneration in which, in the enormous majority of contests, the physicians have won. In England it has resulted in inadequate care being given to the majority of the insured under the Act. In this country it would seem to be useless to attempt to repeat the inherent faults of capitation payment, and medical opinion and customs in this country are already in vigorous antagonism to this form of contract practice. It would seem unwise, therefore, to start with the bitter antagonism of the medical profession against capitation. This would seem to force the necessity in this country of a remuneration based on the visitation system. With this point of view clearly recognized, many difficulties experienced abroad will not occur, and, in fact, the chief stumbling block to the successful carrying out of the law is removed.

COMMITTEE ON PUBLICATION.

January 31, 1916.

ORIGINAL ARTICLES

ADEQUATE INSTITUTIONAL CARE OF THE TUBERCULAR.*

By PHILIP H. PIERSON, M. D., San Francisco.

Our great object in this campaign against tuberculosis is twofold, (1) to take care of the cases which are tubercular, and (2) to prevent others from becoming infected. While these two objects may at first thought seem to be sufficient unto itself, they are in reality one and the same thing. For if we properly and adequately take care of our tuberculous of to-day, prevention for to-morrow will have received its greatest help.

Tuberculosis is certainly a disease which needs institutional care for a part of its course, if taken early, and for a longer period if the disease is allowed to become a deep-rooted infection. Adequate institutional care then, means enough sanatorium beds to provide for the cure or arrest of the incipient and favorable cases, and comfortable hospital beds for the advanced and rapidly progressing cases.

Taking it for granted that everyone is in favor of more institutional care from a medical and sentimental viewpoint, let us briefly consider the purely economic reason why we should do all in our power to protect future generations against the ravages of this disease. Locke and Floyd¹ in 1913 gathered together very interesting data on the economic loss caused by 500 consumptives. First, what was the loss in wages, that is to themselves, during their period of complete disability? This amounted to \$426,039. I will not burden you with the way in which this sum was computed, but would refer you to their article. Next, what did it cost the state to care for them during this period—the actual care, not taking into consideration the cost of building the hospital? This amounted to \$73,984; or \$500,000 represented what they had lost in wages and what it had cost to board them. This also makes no reference to the public and private aid that many received before they were completely disabled. The total weekly income of the families, where there were families, was reduced from \$6807 to \$3055. The total number of families without any income after the disablement of the patient was 161, and this represented a total weekly loss of \$1877.75. Now if we take the figure Fisher says represents the minimum average value of each life cut off by tuberculosis which is the capitalized value of his earnings, to be \$5,600, we have a total loss in the 244 cases which died of \$1,366,400. This figure added to the previous amount lost in wages and spent on care of these 500 patients amounts to \$1,866,400. This group of 500 represents but a very small unit when we consider that here in San Francisco there are about 8-9,000 tubercular cases, and in the state about 52,000. The economic loss in money is surely an appalling amount. Newsholm has shown that the greatest drop in

death rate took place in those communities where the advanced cases—the greatest menace—were isolated. Does it not seem, from all this, that our state should expend even more money than it does, where prevention means avoiding such an economic loss?

The question at once arises as to what cases shall be provided for by the state. The policy of one of the states² is as follows: to care for (1) state wards—those in the state asylums or prisons who have tuberculosis; (2) those of foreign birth who have no legal settlement in any municipality of the state, and (3) early cases who best can be treated according to the modern sanatorium methods. To these classes a fourth class might be added in which the state and federal government will co-operate—the migratory indigent with tuberculosis. The aid received from the government on these cases should be in the form of a subsidy, allowing \$3-\$5 per capita per week for the care of all transient cases in hospitals or sanatoriums. California bears her full share if not more than hers, in the migratory class of tubercular individuals and such aid from the federal government would enable much more intensive work to be done. Advanced cases can best be cared for in local hospitals, supported chiefly by local funds. The state³ may help the localities by granting them a lump sum each year—a thing which might easily become the prey of politics—or it might subsidize the local hospitals, appropriating \$3-\$5 per capita per week. This would encourage the building of local hospitals and stimulate local interest. The former plan is in use in Pennsylvania, Rhode Island, Connecticut and Maine. The subsidy method is practised in Massachusetts and Minnesota which provide \$5 per capita per week, Washington and New Jersey \$3 per capita per week, and Wisconsin, which provides a sum not to exceed \$5 per capita per week. Minnesota also subsidizes the building of county hospitals, paying one-half the cost of building and equipment, this amount not to exceed \$50,000 a year. If there were a *central examining board* through which all cases for sanatorium treatment should pass, and which had charge of the patients while in the sanatoriums much more intensive treatment could be carried on for those who were progressing favorably. If this were not the case many beds in the sanatorium might be occupied by unfavorably progressing cases to the exclusion of others who might be profiting more fully by such expensive care.

Institutional care is not complete until we have dispensaries and visiting nurses' associations which, in the first place, may act as feeders for the institutions; to bring in members of the family who have been exposed to tuberculosis; to educate those in the homes as to hygiene, etc., and finally care for the cases as they are discharged from the sanatoriums in a complete follow-up system.

A further responsibility of the institutions is to find a proper position for the discharged healed patients. In a climate where there are no extremes of heat and cold, such as California, much can be done out-of-doors. A survey of the fruit business⁴

* Read before Joint Conference of California and San Francisco Associations for the Study and Prevention of Tuberculosis, January 27, 1916.

shows that their season lasts from the middle of March to the end of November. Many observers⁵ on this point advise the return of the patient to his former occupation, provided this is not a definitely harmful one. They believe that the attention should be paid to the time the patient is not at work; the necessity of getting to bed early; obtaining as much rest during the day as possible; plenty of good food, etc. There are other types of work which might be mentioned but I will not go into detail on this subject.

So, the well rounded complete institutional care should include, the finding of the early cases, bringing them together in the local hospitals where their condition may be so studied that those with favorable outlook shall receive the most intensive treatment, and finally finding positions for the discharged healed cases.

Finally let me state the approximate number of beds,⁶ public and private, that a few states had for tuberculosis patients in 1913:

State	Free beds	Charge beds	Total	Population 1910	1913
Washington	260	32	292	1,141,990	1,344,686
Wisconsin	144	250	394	2,333,860	2,419,898
Minnesota	258	298	556	2,075,708	2,181,077
Connecticut	900	50	950	1,114,756	1,181,793
New Jersey.....	581	385	966	2,537,167	2,749,486
California	641	620	1261	2,377,549	2,667,516
Massachusetts ..	1611	1136	2747	3,366,416	3,548,705
New York.....	6579	1804	8383	9,113,614	9,712,954

Let us hope that the future for California in this great work will be the development of public opinion, which in turn will result in such legislation that our incipient and advanced cases will receive the adequate institutional care that we must have to save future generations from tuberculosis.

References.

1. Locke and Floyd: Economic Study of 500 Consumptives. Boston, 1913.
2. A. K. Stone: Policy of the State of Massachusetts regarding Tuberculosis. Boston Med. and Surg. Jour., 1915.
3. Tuberculosis Legislation in the United States. National Association for the Study and Prevention of Tuberculosis. New York, 1915.
4. California Fruit Cannery Association.
5. Alfred Worcester, 1909: Suitable Employment of Tuberculous Patients. Employment of Arrested Cases of Tuberculosis. David Lyman, Wallingford, Connecticut.
6. Tuberculosis Directory, 1911, with supplement to 1913.
7. Department of Commerce, Bureau of the Census, Bulletin 122. Estimation of the population 1910, 1911, 1912, 1913, 1914.

COURSE OF FRESH SYPHILIS AS TREATED BY THE NEWER REMEDIES.

By VICTOR G. VECKI, M. D., San Francisco.

Salvarsan and neosalvarsan, the only two newer antisyphilitic remedies to be seriously considered, have modified the course of fresh syphilis in so far as it is always possible to shorten considerably the duration of the primary and secondary manifestations of the disease. The great advantage to be able to reduce the time of actual suffering, eventual disfigurement and chiefly of the disastrous period of high contagiousness, however, is in a great number of cases partly offset by the unfortunate circumstance that an easily obtained initial success inspires most patients and—sorry to state—also many physicians with a false sense of security.

Upon a leaflet of instructions for patients afflicted with syphilis, which I had printed shortly before the first publications about salvarsan, there

appeared a paragraph saying: "Proper treatment, extended over a long period, and never less than three years, is the only safeguard."

After having taken respectful, though skeptical, notice of the first enthusiastic German reports, and principally after the first personal experiences with salvarsan, I began to hope that the period of the necessary "proper treatment" could be considerably shortened, and my advice of "never less than three years" modified.

But so soon as at the forty-second Annual Meeting of the California State Society, Del Monte, April, 1912, I was able to report that: "Salvarsan alone may be able to cure syphilis; it does it, however, in exceptional cases only, and even in those we very seldom can be sure of it."

The newer remedies following so closely the discovery of the spirocheta pallida and the Wassermann reaction have taught us amongst other things that: "watchful waiting" in fresh syphilis is a crime, and further that when we are called upon to give a prognosis we must divide our patients in two classes: those that will follow proper instructions, and those who either will not follow proper instructions or are following improper instructions.

In the pre-salvarsan period just as well as since, I personally have never seen a case of central-nervous syphilis in any of the patients in the first class; many in the second.

Forty-three years ago Bäumler pointed out the danger from a too early cessation of the treatment of syphilis, and argued that "the virus may be proliferated anew in some remaining local deposit, and again infect the fluids." And to-day, after all that we know of syphilis so many patients are still told by their physicians that what they need is "an" injection of 606. Were it not for the dire consequences it would be laughable.

The syphilitic patient is entitled to the full truth like any other patient, and must know that safety lies in energetic treatment with salvarsan, neosalvarsan, and last but not least with mercury until all symptoms have disappeared and a constantly negative Wassermann reaction is obtained. Even after this result is gained, careful watching must not be neglected.

The manifestations of fresh syphilis as treated by the newer remedies alone are shortened by energetic treatment, but when either the newer remedies, the old ones, or even the combined treatment are used spasmodically and insufficiently, the symptoms may at first be influenced brilliantly, but late secondary, early tertiary symptoms and brain syphilis are of too frequent occurrence to be looked upon as accidental.

**PATRONIZE
YOUR
STATE JOURNAL
ADVERTISERS**

FRESH SYPHILIS AND THE NEWER
REMEDIES.

By ERNEST DWIGHT CHIPMAN, M. D., San Francisco.

The best evidence of the efficacy of the newer remedies in the treatment of syphilis is the increasing number of reinfections reported. The old idea was that one attack of syphilis furnished immunity. We know now that re-infections seldom occurred before the advent of salvarsan because, until that time, syphilis was seldom cured. Treated or untreated syphilis tends to become sequestered and, for variable periods, quiescent.

The keynote to successful treatment is the early administration of salvarsan or neosalvarsan. The prognosis of syphilis intensively treated may be practically reduced to the formula—the earlier the treatment, the more effective.

Beginning with the earliest cases, those in which the initial lesion is present but the serological reaction not yet positive, cure may be regarded as certain.

In cases with reaction only recently positive, cure is probable; in late secondary cases, fairly probable. In old cases, cure is possible but contingent upon various complicating factors.

The essential elements in prognosis are time and intensity of treatment. As stated, the earlier the treatment, the better the prognosis or, in other words, the later the treatment the more intensive must it be. Thus, in the earliest stage three or four treatments will often, and even one or two, will sometimes suffice.

The older the disease the greater the tendency for deeply situated foci to become established. Treatment then becomes effective in direct ratio with their accessibility.

While a comparison of new and old remedies is altogether in favor of the former, this does not mean that the latter are to be discarded. There remain certain definite indications both for mercury and the iodides. When these indications are met intelligently the results are often marvelous. Administered at random, as with any remedy, the results are bound to disappoint.

In the secondary period there are certain papular skin lesions in which mercury has a specially marked effect. Even the much despised proto-iodide pill has caused the disappearance of myriads of such lesions. It is doubtless the potency of mercurials in such conditions that has led many to the combination of salvarsan with mercury, and while it may savor of polypharmacy the therapeutic results would seem, in the present state of our knowledge, to warrant the continuance of the practice.

If, however, we were limited to one remedy in the treatment of syphilis, that remedy would be salvarsan.

REMARKS ON THE MODERN TREAT-
MENT OF SYPHILIS.

By HARRY E. ALDERSON, Clinic for Skin Diseases and Syphilis, Stanford University Medical School, San Francisco.

In the treatment of early syphilis we have found the intensive use of salvarsan and mercury the most effective method up to the present time. As an illustration of what can be accomplished by this plan of treatment the case report to follow will answer very well.

Of the various arsenical preparations developed the past few years I have found the old salvarsan (606) to be the most useful. I used neo-salvarsan for a while but soon learned that it was not as potent as salvarsan. We always give the salvarsan intravenously (the dose dissolved in 50 cc. freshly distilled water, preceded and followed by 50 cc. of salt solution). Five or six or more of such injections are given at intervals of 10 days (the dosage varying according to conditions).

In the intervals between these injections the mercury is administered (injections of the soluble salts every other day or the insoluble preparations once a week), or inunctions are given. Mercury is given internally only in those cases where the other methods cannot be carried out.

The potassium iodide is administered after the first year, as under the older methods of treatment.

Several proprietary preparations (combining arsenic and mercury) were found to be inefficient, although as arsenical tonics they are of some use. I have never been able to find therapeutic evidence of the presence of much mercury in these preparations, although I used them intravenously as well as intramuscularly in large doses. Usually the garlicky breath developed very promptly. I have abandoned the use of these preparations in the active treatment of syphilis.

For a while on account of the war it was impossible to obtain salvarsan, and the lack of it was felt very keenly. Since last November, however, we have had an ample supply (arsenobenzol manufactured by the Department of Dermatological Research, Philadelphia, J. F. Schamberg, Director), and the difference in our present results compared with those observed during the period when we had to rely upon mercury and iodine alone is very striking. Active lesions and even the sluggish late lesions of syphilis subside very promptly under the mercury and salvarsan treatment, and the Wassermann rapidly changes to negative. The results from the use of salvarsan and mercury together are better than those observed after either drug administered exclusively.

ILLUSTRATIVE CASE.

Mrs. S. (History 15150) came to the Clinic for Skin Diseases and Syphilis, of the Stanford University Medical School May 19, 1914, with a typical chancre of the upper lip. The chancre had existed about a month. With the dark field condenser *treponema pallida* were readily demonstrated. The patient had a beginning roseola and the usual con-

stitutional symptoms. She was pregnant in the fifth month.

On May 30, 1914, she was given salvarsan (0.6) intravenously. She refused to submit to intramuscular injections of mercury and it was certain that inunctions would not be carried out properly, therefore we were obliged to resort to hydrarg cum creta (0.12) t. i. d. The patient did not call regularly, so it was not possible to give her salvarsan again until one month later. At the time the second salvarsan injection (0.6) was given it was noted that the chancre has subsided, and that she was looking very well.

On August 1, 1914, the third intravenous injection of salvarsan (0.6) was given. On August 24, 1914, the fourth intravenous injection of salvarsan (0.6) was given. During all this time the patient was taking hydrarg cum creta. On September 17, 1914, she entered the County Hospital for confinement in the service of Dr. Topham (U. C.). She was given hydrarg cum creta (0.3) t. i. d. and potassium iodide (0.6) t. i. d. all during her stay in the hospital and through the nursing period up to and including October 30, 1914.

For some weeks prior to this her Wassermann had been negative on several occasions. On October 18, 1914 (full term), the patient gave birth to a perfectly normal healthy baby. The puerperium had been uneventful. The placental blood and the baby's blood gave triple minus Wassermann. Examination of material from the placenta for the treponema pallidum was negative. Histological examination of the placenta and cord by Dr. Stephenson revealed no evidence of lues.

The mother was not seen after she left the County Hospital (October 30, 1914) until April 1, 1915, when she reported to Stanford University Clinic with what was undoubtedly a reinfection with syphilis. During the five months that she had been out of our hands she had been leading the life that would make reinfection inevitable. She presented a severe sore throat with swollen and inflamed tonsils and generalized, discrete discoid syphilides. She stated that this eruption had only been present a few days. She was at once given salvarsan (0.6) intravenously. She refused again to submit to mercury injections and on April 8, 1915, (the last time that she was seen by us) it was noted that her condition was very greatly improved.

It is very evident that the patient, who was pregnant in the third or fourth month when she contracted her syphilis, was cured of her syphilis by means of four intravenous injections of salvarsan and the steady administration of hydrarg cum creta which made it possible for her to give birth to a healthy baby at full term. The entire course of this treatment only extended over five months. The definite reinfection seven months after the confinement is further proof that she was cured of her first infection.

The baby gained in a normal manner and was brought to the Children's Clinic of the Stanford University Medical School, where Dr. Yerington made a complete examination and found nothing abnormal. The blood Wassermann was repeatedly negative. When last seen the baby was ten months of age, and there were absolutely no signs of lues. The child is still under our observation and is being brought to the clinic regularly by its foster mother. It is quite evident that the child is not luetic.

**PATRONIZE THOSE
WHO
SUPPORT
YOUR JOURNAL**

THE TREATMENT OF SYPHILIS IN THE PRIMARY STAGE.

By DOUGLASS W. MONTGOMERY, M. D., San Francisco.

For purposes of description it has long been customary to divide the course of syphilis into stages: the primary, secondary and tertiary. In nature, of course, there is no sharp division, the virus is inoculated and immediately begins to grow, and within three weeks causes disturbance enough to give rise to a buttonlike induration called a chancre. At the same time the spirochetes have advanced along the lymphatic vessels to the first lymphatic nodules, usually those of the groin, causing them to swell. Coincidentally with this they have also entered the blood current, but at first are not present in large enough numbers either to give rise to a Wassermann reaction or to cause symptoms of general infection, and of course the deposits of spirochetes in the skin and mucous membranes have not yet taken place. The only symptoms present, therefore, are the primary sore, and the indolent enlargement of the immediately adjacent lymphatic nodules. If there is any hope of jugulating the disease this is the most favorable moment, and undoubtedly in many cases this may be done.

In such a contingency there are only two drugs, mercury and salvarsan, that are effective, and both of them are spirocheticides. Iodid of potash, which is not a spirocheticide, should not here be employed, as it may embarrass the patient seriously, and it can do no good.

The two great spirocheticides, mercury and salvarsan, should be used in conjunction, not separately, nor either one exclusively. To illustrate my meaning I shall relate a conversation I had with Blaschkow shortly after the introduction of salvarsan. He had just returned from a visit to Ehrlich, who had told him, what was then beginning to be recognized as a fact, that after an infusion of salvarsan the disease cropped out again, and apparently as vigorously as before. Ehrlich advised him to use both mercury and salvarsan. Blaschkow's disappointment was acute. He asked me why Ehrlich had sought for a remedy for a disease for which there already was a highly efficient treatment, and why he should wish to double up drugs when one drug would do the work? We all knew how efficient mercury was as an antisyphilitic, and especially in the hands of an expert like Blaschkow, but nevertheless salvarsan was to justify itself, not however when employed alone, but in conjunction with the older remedy. In fact the older remedy, mercury, was to hold its place as the principal drug, with salvarsan as a most efficient adjuvant.

THE EMPLOYMENT OF MERCURY IN PRIMARY SYPHILIS.

There are many ways of giving mercury and many forms under which it may be administered, but in attempting to jugulate the disease, and this is always the ideal to be striven for in primary syphilis, the drug should be given in a way to quickly enter the blood and lymph circulatory systems, and to do so in the largest possible dose compatible with the least injury to the patient.

This cannot be accomplished by way of the alimentary tract, either mouth or rectum, as the barrier of the liver alone retards and mitigates the action of the drug on the general juices of the body. It must be given either by inunctions, or by deep subcutaneous or intramuscular injections. Preferably it should be given as the simple metal mercury; that is to say either as blue ointment for inunctions, or as grey oil for injections. The only possible exception to these are injections of calomel, which, as is well known, exhibits a most powerful systemic effect on syphilis.

INUNCTIONS.

Although in inunctions the mercury is rubbed into the skin it has been conclusively shown both by Welander and Neisser that much of it actually enters the lungs as vapor by way of the respiration. It is important to remember this, as inunctions, for this reason, are much more effective when given in a small warm room.

In a matter of such grave moment, in which the element of time and the proper handling of the drug are of such importance, either personal supervision, or the employment of an experienced rubber, or detailed written instructions are indispensable. Nothing can be worse than to tell the patient to rub a small portion of ointment into the skin once a day.

Besides the desirable secrecy, there are advantages in having the patient rub in the ointment himself; the labor involved increases the respiration and therefore markedly facilitates the intake of the remedy. It also starts the perspiration, opens the cutaneous pores, brings the blood to the skin and so promotes the absorption of the ointment.

There are three mercurial ointments—a fifty per cent., a twenty-five, and a thirty-three and one-third per cent. The last, as being sufficiently strong, soft and well adapted for rubbing in, is preferable. It is also important that the ointment be well triturated in order to break up the mercury into the finest globules. It may be ordered dispensed in oiled paper packages, each package containing the amount requisite for a rubbing, usually four grams; and for a particularly energetic treatment five grams may be ordered, and for women and delicate, weakly men, two or three grams. An excellent device is to have special gelatine capsules made, each containing the requisite quantity of ointment with the addition of 0.06 of carmine. The gelatine keeps the ointment moist, and the carmine disguises its color.

A course consists of between thirty and forty-four rubbings and lasts between six and eight weeks.

The ointment is to be rubbed into one limb and the adjacent part of the trunk each day, so that in four days the whole surface will be covered with the exception of the face, neck, feet and back.

In rubbing in the ointment a very little is put on the skin, and then rubbed in by firm strokes with the ball of the thumb, and so on until the portion ordered for one rubbing is exhausted.

The rubbing should be continued until the sur-

face feels dry, not fatty; this takes about twenty minutes.

For reasons before mentioned the rubbing should be done in a small warm room, and by the patient himself and preferably in the evening, as the mercury vaporizes and is retained close to the body in the heat of the bed, while if the inunctions are done in the morning much of the mercury is dissipated in moving about.

The rubbing into the four quarters of the body takes four days; on the fifth day no ointment is rubbed in, but the patient remains anointed, and during these five days the same suit of underwear is worn, so that any ointment it may absorb from the skin may continue to be held applied to it. On the sixth day a bath is taken, the underwear is changed, and a new round of rubbings is begun.

As it is impossible to know how much mercury really enters the system, the urine should be regularly examined for the appearance of albumen or sugar, for it is now well recognized that mercury, besides irritating the kidneys, may cause an attack of glycosuria. A sharp outlook should also be kept for the occurrence of gingivitis, an unduly wet mouth, or the curious acrid odor of salivation. The teeth should be brushed three times a day either with or without the use of a tooth paste; the brushing is the essential thing.

Admirable as this mode of administering mercury is, it is gradually being less and less employed. The reasons for this are plain. The ointment is dirty, and to some skins, especially the very hairy ones, it is often very irritating. Patients are shiftless and unmethodical and neglect or forget their treatment. Often for one cause or another in the evening a man will be tired beyond words to express, and under such circumstances may skip a treatment, and the chain being broken, it becomes increasingly easy to break it again. Furthermore it is impossible to get the average patient to call regularly at the office for inspection alone. It is only human nature to require that something shall be done. Yet it is important to keep watch of the patient, as for instance during the treatment a fulgurating mercurial stomatitis may break out, a most deplorable event, both as regards the patient's mouth and especially the interruption of treatment, as this necessitates the cessation of all mercurials.

The direct contraindications for the inunction treatment are: local mercurial folliculitis, that may be negotiated by skipping the affected surface; mercurial erythemas and eczema-like eruptions, which when they occur only about the elbows and knees may be evaded in the same way as the folliculitis. More widely spread mercurial exanthemata may, however, appear both in employing the drug either externally or internally and may necessitate an interruption of the treatment. Eczema, lichen planus or other extensive skin affections may furnish a contraindication to the employment of inunction treatments at all.

When mercurial ointment irritates, the cause may lie in the ointment itself. It may contain turpentine that is very irritating to some skins, or

the fatty medium may become rancid and develop the fatty acids that sharply attack the skin.

GREY OIL.

Deep subcutaneous or intramuscular injections of grey oil may almost be considered an ideal form of treatment, both in regard to ease of administration, freedom from accidents, and happiness of results. It is true that the injections are occasionally somewhat painful, but seldom indeed very severely so. It is also true that it is impossible to tell how rapidly the drug is absorbed, so that exactitude of dosage has a relative meaning; it is, however, more exact than in inunctions. Grey oil rarely causes infiltrations and very rarely extensive ones, and only very occasionally do these break down. It may cause loss of weight. I have one patient now who is losing quite decidedly, but this may occur under any mercurial. With careful technic embolus can be avoided. I have never seen sciatica caused by it, and I have never heard of one that was so caused that lasted for any length of time.

SALVARSAN.

As far as I personally have been able to judge, the action of salvarsan and neosalvarsan are equivalent in proportionately equivalent doses, and this is the opinion of most syphilographers.

The dose of salvarsan need not be greater than 0.30, 0.45 or 0.50 gm. It has been found that these doses are as efficient as larger ones and are not nearly so likely to cause encephalitis hemorrhagica. This danger is, as shown by Meiwsky and Kretzmer, much greater at a little later stage, when the patient is suffering from full spirochaetemia, but the misfortune may occur, and when it does the consequent severe illness or death is almost always attributed to the physician, who runs the risk without any compensatory advantages.

Following the principle that salvarsan is rapidly spirocheticidal and inhibitory I give a dose as quickly as the positive diagnosis can be made, and immediately begin giving the mercurial, which must be in a form that is continuous, steady, enduring and that will not interfere with the general health, and that at the same time will exert the greatest effect upon the disease. In my experience there is nothing that nearly approaches the metal mercury in this respect given either as inunctions of blue ointment or as injections of grey oil. The only exception to this is, as before mentioned, injections of calomel. For reasons above stated the grey oil is usually chosen. There is no reason why one or two more doses of salvarsan may not be given at one or two week intervals, provided that the mercury is steadily maintained in weekly doses of about 0.08 of the metal. At the end of ten doses of the mercury, that is to say at the end of ten weeks, another dose of salvarsan is given, and at the end of still another ten doses of mercury another dose of salvarsan is administered, making thirty doses of mercury, and at least three doses of salvarsan in thirty weeks. Two months after this, so allowing time for the mercury to leave the system, a Wassermann test is made. If it should turn out positive there is nothing for it but to repeat the therapeutic procedure. If the Wasser-

mann should be negative, and should remain so, it is nevertheless well in such a tenacious disease as syphilis to give one salvarsan infusion and ten mercurial injections in the second year.

There is no doubt that, especially when instituted very early, syphilis may be cured by salvarsan alone. By persistently following up the salvarsan this happens in quite a large number of cases. Wechselmann, who has an enormous experience, but who is quite temperamental, is an enthusiastic upholder of the exclusive salvarsan treatment, and is opposed in an equal measure to the use of mercury at all. I personally have seen a patient with whom treatment was begun in the primary stage, and who had received twenty-one infusions of salvarsan with occasional doses of some mercurial preparation, but with whom the Wassermann persistently remained positive. After twenty injections of grey oil given in the manner described, the Wassermann became negative, and I believe has remained so ever since.

In regard to the topical treatment of the chancre, it frequently requires nothing whatever, or it may be well soaked with boric acid solution and dusted with calomel to control the local pyogenesis. There can be no objection to its surgical removal if situated in a convenient place, as on the prepuce. This procedure has the merit of removing a principal focus of spirochetes, and many, for instance Buschke, enthusiastically favor it.*

All attempts otherwise to destroy the chancre, as with Hollaender's hot air apparatus, or with chemicals, are to be deprecated.

Under this or a like treatment, and under the most favorable circumstances in which the chancre promptly fades away, the enlarged lymphatic glands rapidly subside, and no manifestations occur on the skin or mucous membranes, and the Wassermann remains negative, there are those that assert that the disease may still remain, and may crop out in after years in some of the many ways that syphilis has of showing itself. Even a reinfection fails to convince these people that the former attack was cured. These observers are not entirely captious.

Many, for instance, think that the course of the infective process is not so simple as sketched at the beginning of this article, and that either the toxins or the virus itself have already been spread far and wide throughout the body when the induration of the chancre occurs. They maintain that the induration indicates an allergy, a constitutional reaction of the tissues brought about by the action of the virus, or its products, on the whole body. This would alter necessarily their view in regard to the curability of syphilis, for the more widely spread the disease the less likely would it be that a medicament would successfully eradicate it in all quarters.

It is known that an untreated syphilis may appear as an insignificant chancre, with little reaction in the neighboring lymphatics, and that there may be an entire absence of lesions on the skin or mucous membranes. That is to say, after the inoculation the whole subsequent course may be

* Hautk'kten von Dr. Erhard Riecke, 1914, S. 729.

that of an internal disease. This is most apt to occur in women. As for the Wassermann, it is an intricate reaction, the real nature of which is, as yet, not understood. While there is no doubt of its value, it is known that it is not absolutely reliable in judging of the absence of syphilis. Scientifically, therefore, we must preserve an open mind, and be prepared to accept facts showing that syphilis when once inoculated, and developed as far as the primary stage, is never cured even by the most thoroughgoing treatment. On the other hand to those who believe that syphilis can be cured, the facts as now developed and as set forth in this paper are very encouraging, and justify giving the patient a most favorable prognosis. I think they necessitate taking this favorable view as regards the patient, because I do not believe in putting the patient on tenterhooks by refinements of scientific reasoning, the explanation of which fails to explain, and leaves him in a nebulous state of doubt.

THE PRESENT STATUS OF SALVARSAN TREATMENT.

By HOWARD MORROW, M. D., San Francisco.

Time has demonstrated that salvarsan and neosalvarsan are of great value in the treatment of syphilis. Time has also shown that several courses of mercurial medication should always be given in conjunction with the new remedies, and also that the arsenical preparations should be exhibited much oftener than was the custom of a few years ago. Salvarsan is indicated in all cases of active syphilis, and the dose must vary according to the weight of the patient, and to the presence or absence of contraindications. It is particularly indicated in early syphilis, in palmer and plantar syphilis, in malignant syphilis and in ulcerative syphilis, especially when the ulcerations are on the mucous membranes. In early syphilis the dose should be large, and repeated every seventh day for a period of several weeks. In malignant syphilis it may be necessary to give a dozen or more injections before the condition is under control. Syphilis of the palms and soles, and certain types of luetic manifestations on the mucous membranes clear as rapidly after one injection of salvarsan as is noted after several months of straight mercurial treatment.

There seems to be little to choose between old salvarsan and neosalvarsan. Neosalvarsan is easier to prepare, less irritating, and it is supposed to be less toxic. It is better than old salvarsan for hereditary lues, as it can be given intramuscularly with very little discomfort. Old salvarsan appears to be more efficacious than neosalvarsan, but it should not be given intramuscularly, since, when following this route of administration, the reactions are usually more severe.

On account of the frequency of luetic symptoms appearing several months to years after salvarsan has been given, it must be considered advisable to carry on mercurial medication in one form or another, this line of treatment to extend over a year's time or more. Intramuscular injections of the soluble or insoluble salts and inunctions are preferable to mercury given by the mouth.

The American preparation called arsenobenzol is similar to old salvarsan: it is neutralized with the same amount of sodium hydrate, and the clinical results from its use seem to be as satisfactory as those obtained from the German products. The French preparations called arsenobenzol and novarsenobenzol correspond to salvarsan and neosalvarsan respectively, and are practically identical. As it is almost impossible to procure many tubes of the German preparations as a result of the European war, we are fortunate in having an American preparation of equal value.

ATTENTION!

PHYSICIANS AND DENTISTS.

A man described as follows:

30 years—5'-6 or 7"—125 pounds—Slender build—Light Complexion—Light Hair—Light Eyes—who has a sort of wizened expression and who wore a medium light tan suit, with a long peaked cap to match—

Has, for the past two years, been burglarizing the offices and desks of Physicians and Dentists, stealing blank checks, cancelled checks, also gold, jewelry, cocaine, etc. He uses the cancelled checks as samples; then fills in the blank checks, forging the doctor's name, and cashes these checks at Banks, Stores and Cigar Stands; thus causing the loss of considerable money and valuables to your professions.

We solicit your co-operation in capturing this criminal. Kindly examine your check-books daily, and, if any checks are missing, or, if you should hear of his operating elsewhere, then please notify this Agency *immediately*.

Request the Superintendent of your Building to be on the lookout for this man, and ask him to so instruct the building employees, as this man has operated in this City within the last two days.

Again soliciting your co-operation in capturing this criminal, and assuring you that any information received will be greatly appreciated, we are,

Very truly yours,

PINKERTON'S NATIONAL DETECTIVE AGENCY,

No. 214 Flood Building,
San Francisco, Cal.,

April 13th, 1916.

Kearny 5330.

THE INCONSPICUOUS, EVERY-DAY FORMS OF THYROID INSUFFICIENCY.*

By HENRY R. HARROWER, M. D., Los Angeles.

The so-called "minor thyroid insufficiency" occurs in the routine work of every physician, every day. Very often it is entirely overlooked. It is the principal cause of quite a number of widely varying conditions and a factor of importance in many others. The thyroid gland has been aptly called "the keystone of the endocrinous arch"; and we are beginning to realize that the glands of internal secretion play a much more important role than many of us had hitherto imagined. In fact, they control growth and development; they are the prime factors in the regulation of metabolism; they dominate the nervous system, more especially the sympathetic; and they are altogether indispensable to the maintenance of the physiologic harmony of the body.

Our interest in these glands, then, should by no means be limited to the mere consideration of definite disease in one or more of them. We should rather seek to appreciate the insidious and insignificant minor aberrations from the normal, and in so doing in many cases we will be able to forestall the more serious organic manifestations which later assert themselves. (My use of the word "insignificant" refers rather to the ease with which these conditions are appreciated, than to their comparative importance, for these aberrations are certainly much more important than yet appears.)

As we occupy ourselves in searching for the early, minor manifestations of internal secretory disturbance, we will not merely be able to forestall the more serious organic diseases, but will discover that unsuspected associated symptoms, from chilblains to nocturnal enuresis, or rheumatism to melancholia, will be modified by organotherapeutic measures which may have been directed at some entirely different condition. Most of our practical information on this subject has been acquired accidentally. A physician is investigating a certain train of symptoms and he casually glimpses something he had not been looking for; or some concomitant condition at which he had not been especially directing his efforts, is cleared up and a new therapeutic procedure is born. Such experiences have laid the foundation for practical organotherapy, and while this form of therapeutics is often altogether empiric, we are or should be thankful that we can bring about results that are nothing short of marvelous, even though we cannot quite explain the "how" or the "why."

When the functions of the thyroid gland were just beginning to be appreciated some 25 years ago, most of those who studied the matter did so from the standpoint of the influence of the absence, either congenital or experimental, of this gland. A year or two later, when Murray, then of Newcastle, first administered a preparation of animal thyroids, he gave it to a woman suffering from myxedema, and for a long time thyroid

therapy was confined to the serious major thyroid syndromes. Both these circumstances have tended to obscure the question of the less obvious thyroid disorders, and for a long time the use of this new remedy was limited to cases in which there was a marked affection or entire absence of the organ.

An important result of this still persists. Until quite recently the generally recommended dose of thyroid was altogether too large, at least, in the majority of the cases in which it is to be given. This was doubtless due to the fact that the original dosage as indicated in the various pharmacopeias was based upon experiences in the treatment of athyroidic individuals. It is true that a commonly suggested dose—five grains three times a day—may be none too much for myxedema or cretinism. Occasionally it may be advantageously increased above this figure, for in organotherapy "there is no dose save dose enough"—the only difficulty being how to determine when "enough" is given; but since we are now using thyroid in a host of other disorders related to functional minor hypothyroidism we must begin with much smaller doses, say an average of one-quarter or one-half a grain three times a day.

This has had an unfortunate influence upon the practical consideration of this subject. Our attention having been directed to an important series of facts, we have overlooked much else that is of greater importance in every-day medicine. The major thyroid insufficiencies are not so very common. We see them occasionally and usually they interest us only moderately, for the treatment is now fairly well understood and there is little to do save to follow the well established procedures and supply the lack that nature or the surgeon has accidentally brought about. On the other hand the minor cases of hypothyroidism complicate the work of the general practitioner in such disorders as nocturnal enuresis, headache, cold feet and hands or chilblains; the dermatologist is concerned because of the connection of many dermatoses, as, psoriasis, prurigo, eczema or herpes, with hypothyroidism; the internist finds a relation between this condition and certain forms of rheumatism and cardiac disorders; the neurologist knows that neurasthenia, melancholia, many forms of insanity and some of the psychoses may be purely thyroid in origin and as one prominent alienist put it, "the most important single remedy in the asylum is probably thyroid extract"; the gynecologist finds the thyroid a direct cause of many functional genital conditions and has learned that it is so intimate with the ovaries that disorders of them cannot occur without some reflex influence upon thyroid activity, he also has found in thyroid extract a most useful means of treating many forms of female disease, especially amenorrhea and dysmenorrhea of certain forms; the surgeon finds the thyroid more of an unmitigated nuisance than a help, although a connection between thyroid activity and bone growth is reported and the control by this gland of development makes it of importance in the

* Read before the Riverside County Medical Society, December 13, 1915.

consideration of a number of deformities and dystrophies. Last, but not least, in pediatric practice thyroid therapy, and of course the physiologic influence of this gland, is all important. Thyroid extract is one of the most commonly used organo-therapeutic remedies in the treatment of many infantile disorders. We have already mentioned its possible utility in nocturnal enuresis; and in many nutritional disturbances, most of which are endocrinous in origin, the thyroid is the most commonly disordered gland. In fact, one can hardly find a nutritional dyscrasia in children without tracing it very quickly to the thyroid gland. Such manifestations as mental dullness, enlarged tonsils or adenoids, nasal or bronchial catarrh, dry, rough skin with coarse hair, as well as defective speech and occasionally soft bones, are all indications of deficient thyroid activity. The metabolic changes in rickets and marasmus are undoubtedly partially due to disturbances in the thyroid apparatus, i. e. the thyroid, thymus and parathyroids; and it seems quite certain that the idea that this disease was due solely to faulty feeding or to the impossibility of breast feeding, must now be relegated to the background and the thyroid and associated glands be given first consideration. It is quite remarkable how very small doses of thyroid—one-twentieth to one-quarter grain three or four times a day for some weeks—will modify many of the manifestations just mentioned—in adults as well as children. It is quite safe to say that the physician who remembers the extreme intimacy of the thyroid gland with disturbances of nutrition will be much more successful in their treatment.

Apropos of this, an interesting statement by Isabelle Thompson Smart of New York (*Med. Rev. of Revs.*, 1915, p. 269) is worth quoting: "The subtle influence (of thyroid) upon the hormone balance regulates in a mysterious way the whole of the internal secretory activities. We cannot always explain why thyroid extract is such a remarkable remedy, but we are satisfied to know the extraordinary results that frequently follow its use where there is a metabolic disturbance of obscure origin and in which there are none of the indications of cretinism. An unscientific but very satisfactory means of treating this large class of cases is to give thyroid extract, as one physician says, 'like a hit in the dark,' and while misses are not uncommon, the physician who does this will be surprised at their comparative infrequency."

When we recall the fact that the glands of internal secretion are inextricably related to one another and also that one cannot harm one without disturbing the harmonious interrelation of the others, the importance of this subject begins to grow upon us. Every-day circumstances such as the emotions, toxemia of alimentary and other origin, disease of all kinds, genital derangement of ever so slight a degree, especially in the female, and even the weather, may stimulate or depress, as the case may be, one or more of these hormone-

producing organs with results which vary very decidedly in their manifestations and seriousness.

I cannot refrain from making the briefest reference to a condition which has been aptly termed "the jerry-built constitution." The name is almost self-explanatory. By far the most important factor in such individuals is a thyroid instability. These individuals "catch everything," they are in a state of low metabolic activity, their urinary solids is low and the acidity is high. They are toxic. Neurasthenia is common in such cases. They are none too bright in their studies or their business. They are the skim-milk of humanity, and how much of it there seems to be. Study the internal secretory capacity of such individuals; enhance the action of the thyroid, at the same time neutralizing the acidemia and clean out the bowels and there will be a metamorphosis that is sometimes astonishing. Right here I want to say that the treatment mentioned exclusive of organotherapy is by no means so efficient and I have come to the conclusion that the hormones really do the work and the re-establishment of a normal alkalinity of the blood and the removal of as many of the toxic products as possible merely puts Nature in a position to respond to the stimuli to which she is accustomed and the lack of which is such a potent factor in the etiology of many of the cases mentioned. The detoxicating procedures are negative treatment, if I may so term it; while the organotherapy is positive treatment. The former is good, for it gives Nature a chance; but both are better, because they give Nature a boost.

You realize, of course, that we cannot begin to consider the whole gamut of minor thyroid disorders to-night. Their ramifications extend into every phase of medicine. Leopold Levi and Baron Henri de Rothschild, of Paris, have written two fairly large books on this single subject; and in their most recent publication the relation of the thyroid to each of the important disorders, acute and chronic, is thoroughly discussed. Many disorders which we have mentioned incidentally are given the prominence of a chapter to themselves. But before closing I would like to lend a little more emphasis to some points regarding diagnosis, as well as to the administration and dosage of thyroid extract.

The diagnosis of minor hypothyroidism is comparatively simple. Most often, I must admit, it is presumed to be present and "diagnosed" by the therapeutic test. Several of the commonest symptoms have already been mentioned and for convenience it may be well to quote from a recent monograph by Lewellys F. Barker, of Baltimore, entitled "Some of the Commoner Types of Diseases of the Endocrine Glands":

In examining children for minor hypothyroidism, three principal points should be kept in mind: (1) retarded growth; (2) habitual constipation, and (3) dullness in the schoolroom. In adults the most important symptoms are (1) endogenous obesity; (2) persistent constipation; (3) a dry, harsh skin; (4) subjective feelings of cold, and

(5) recurring drowsiness in the daytime. Barker advises the therapeutic test in all cases where there is any doubt of the presence of a condition of this nature; in other words, this eminent internist suggests recourse to empiricism, and he is right.

Some other symptoms which have directed attention to a thyroid insufficiency which had been entirely overlooked, may be mentioned. They are, however, not infallible signs: Cracked and brittle finger nails; loss of the outer third of the eyebrows; twitching or blinking of the eyelids; fleeting and indefinite joint pains; low total solids in the urine; sensitiveness to cold and especially the need for an unduly large quantity of bedclothes; snoring (without other good reasons therefor); reduced resistance to infections, especially of the skin, as acne, etc. To these must be added the well-known symptoms of major hypothyroidism, though, of course, they are not so well marked.

Thyroid is a most useful remedy and like most drugs of its importance is worthy of much more study and far greater clinical application. Small dosage is always the rule. A quarter of a grain is my usual initial dose. It may be repeated from two to six times a day. Rarely is it necessary to give more than three grains a day in divided dosage. Occasionally one meets a patient who needs thyroid but cannot tolerate it; in such cases it is well to try giving the whole day's dose, not more than one-half grain at first, increasing later to one and one-half or two grains, at bedtime. This obviates some of the inconveniences with the heart and respiration. In this class of cases Heinrich Stern, of New York, gives sodium cacodylate in small doses with the thyroid. He finds that this mitigates the inconveniences of an idiosyncrasy to this remedy.

Thyroid must be given for some time to be most effective. The French method appeals to me most. They give, say, one centigram (one and one-half grains) of thyroid per day, divided into three or more doses, and continue thus for one week. The drug is then omitted for a week or even longer, and then begun again for another period of a week, using the same or a slightly larger dose, then omitting it for another week or more, and so on. Occasionally individuals supersensitive to thyroid medication may establish a tolerance to a given dose, and after reducing the amount and starting again, it may be found that they are able to take very much larger doses with none of the previous symptoms of intolerance.

In many cases where thyroid is indicated, especially in obese women who are taking thyroid to facilitate reduction, pluriglandular therapy may be helpful. Corpus luteum given with the thyroid is sometimes of much assistance, especially in neurasthenic women and those near the menopause. In asthenic cases with a considerable degree of muscular weakness and constipation pituitary is given in conjunction with thyroid with good results.

Pituitary (whole gland) is often given advantageously with thyroid in children who have

hypothyroidism. This is especially so in cases with maldevelopment and dullness. The dose may consist of one-quarter to one-half grain with half as much thyroid three or four times a day. The amount of pituitary may be increased more frequently than the thyroid, giving finally, say, two and one-half or more grains of pituitary and one-half grain of thyroid at a dose.

An important point regarding the dosage of thyroid in children is the fact that the amount given is not regulated by the body weight or age of the child. Dosage depends solely upon individual susceptibility. The only way to establish a suitable dose for a given case is to start with a small dose, say, one-tenth or even one-twentieth of a grain at the usual intervals, giving increased doses very carefully until evidences of intolerance are noted. Then stop the medication for a period and recommence again with the previous dose or slightly less.

An important point to which I have never seen attention drawn concerns the label-dosage of several thyroid preparations on the market. Preparations of this character are usually given in tablet form, as it is most convenient and quite satisfactory. Manufacturers indicate the contents of their tablets in three ways on the labels: (1) 5-grain tablets; (2) 5-grain tablets, each tablet representing 3 grains of desiccated thyroid substance, and (3) tablets representing 5 grains of fresh thyroid glands. These figures are mentioned merely for convenience, since 5-grain tablets of thyroid are not used so much these days. It will be clear that (1) does not contain 5 grains of the active remedy since one cannot manufacture a 5-grain tablet of thyroid with no excipient to bind it or to facilitate its rapid disintegration. I much prefer the second way of expression, the size of the tablet is merely for manufacturing convenience and the amount of active constituent is definitely stated. Regarding (3) I cannot understand why a firm should insist on denoting the amount of fresh substance, rather than the standard (U. S. P., in this particular instance) preparation of dried gland. This may be the cause of trouble. For instance: A physician is giving a Parke, Davis & Co. tablet, 5 grains at a (hypothetical) dose. For some reason or another the treatment is continued with a Burroughs, Wellcome & Co. tabloid, but it is not noticed that "Tabloid Thyroid Gland Gr. 5" represents fresh substance, or only one-fifth as much of the dried gland as had been previously given! Parenthetically it may be remarked that this last-mentioned firm puts a "Tabloid Thyroid Gland Gr. 1/10", which contains only one-fiftieth of a grain of the dried gland.

There is a good deal more, but it will have to be left for another time. Suffice it to say that minor thyroid insufficiencies are as common in the average run of patients as orange trees are here, only they are not always so obvious and there is not always a sign which fairly shouts to one as, for instance, the perfectly delicious odor

of your wonderful orange blossoms. Figuratively speaking, however, there is as much pleasure in the appreciation of a hidden thyroid inadequacy as in the enjoyment of one of your incomparable oranges.

Let us cultivate our sense of discernment so that cases of this kind will not slip by unnoticed again.

ORAL HYGIENE FROM AN EDUCATIONAL AND ECONOMIC VIEWPOINT.

By GUY S. MILLBERRY, D. D. S., San Francisco.

Amongst thinking men to-day, dentistry is viewed as a specialty in the broad field of medicine even though the dentist does not usually receive his training in a medical school. The reason for that, I believe, is directly due to the refusal on the part of the Faculty of Medicine in the University of Maryland in 1839 to introduce the teaching of dentistry into their school and the subsequent organization of the Baltimore College of Dental Surgery.

It is not such a far cry to look back seventy-five years to the organization of the first dental college in the world, but in that brief space of time American dentistry has achieved a distinction which has added laurels to that group of common-wealths we are proud to call our country.

I do not wish to imply, however, that all dentistry as practiced in America by Americans is such as would warrant or sustain this distinction; in fact, I believe, that we are now on the brink of an epoch in dentistry when more will be demanded and expected of the dentist by you and by the laity than has ever been demanded or expected before.

Many of you listened to Dr. Frank Billings of Chicago in his recent course of lectures at Stanford Medical School. Do you remember his statement that, barring skin and venereal disease, the largest percentage of diseases that flesh is heir to find their origin in that small area which is now entrusted to the care of the rhinologist and the dentist, and do you realize what an immense amount of work is to be done by these men if preventive medicine and preventive dentistry are to become the leading factors in the healing art?

Preventive medicine is largely accomplished by the enforcement of federal, State and municipal ordinances, by sanitation and by rules for health initiated and enforced by trades unions, etc., amongst the industrial class. Preventive dentistry is largely a question of individual service. Many dentists insist on recurring visits at regular stated intervals for prophylactic and preventive work, while the patient, as a rule, does not visit the physician's office regularly to determine his state of health. The insurance companies are doing something along this line in annual medical examinations. The only other possible solution of the problem is the inauguration of prophylactic measures in certain social groups, and the regulation of the diet; the former has not received the full endorsement of public opinion as yet, and the latter insofar as dental caries is concerned has not been investigated far enough to furnish us with

dependable information. Therefore, the problem seems to me to be an economic one, in which education plays an important part.

Dental caries, per se, is essentially a children's disease; the sequelae, alveolar abscesses, necrosis, malocclusion, etc. which occur in adult life may frequently be traced to the inception of caries in childhood and its subsequent recurrence until pulp involvement ensues.

Prophylactic measures instituted in early childhood are conceded by most dentists to be the best procedure in preventing the recession of gums, and the formation of food pockets which plus infection are the forerunners of so-called pyorrhea. Thus it is believed that if proper care is given the children, there is a greater likelihood that susceptibility to contagious disease will be lessened and better general health will prevail throughout life.

Let us take for our maxim a statement made by that famous statesman and novelist, Disraeli. "The public health is the foundation on which reposes the happiness of the people and the power of the country; the care of the public health is the first duty of the statesman." There has never been a time, with the crisis in Europe still undecided, when the need for the conservation of human life was greater than now and this is of inestimable value in the United States.

Dr. Schereschewsky in discussing "Industrial Hygiene" in a recent number of Public Health reports, offers some suggestions which are worthy of repetition and application. As a general means of disseminating knowledge regarding the subject he offers the following plan:

1. Permanent exhibits.
2. Traveling exhibits and moving pictures.
3. Popular lectures.
4. Bulletins by federal, state and municipal authorities and private organizations.
5. Popular articles in the press.
6. Instruction in the public schools.

Now since we have proven to our satisfaction that these conditions are preventable, and since ignorance and carelessness is the cause, then education is the most potent factor in this problem.

While concurring with the above quoted plan I would add that the medical profession as a whole should be familiar with the procedures in preventive dentistry because "the medical profession is generally accepted as the most reliable source of hygienic information." I realize full well that many men in your profession are more keenly alive to the menace of decayed and abscessed teeth in a child's mouth, than a large number of dentists are, and I regret that you do not always secure the co-operation you desire from the latter, but that again is a matter of education, and we will endeavor to improve that condition as time goes on.

To refer again to the educational plan previously mentioned, you are in a position to inaugurate certain measures to carry it out. The Palace of Education at the Panama-Pacific International Exposition, which has for its chief motif

hygiene, built upon the fact that hygiene and sanitation was responsible for the building of the Panama Canal, has proven that some of the most horrible and loathsome pictures of diseased conditions have an educative value, and there is no reason why a section in our museums of natural history should not be devoted to hygiene. Will you propose such a plan in your community?

And as to traveling exhibits, the medical school as well as the agricultural and engineering department of our University are probably in a position to offer something in the way of traveling exhibits which might be given a section in the agricultural demonstration cars traversing the state. I know the dental school will willingly add something to help the cause. Even though this plan of educating the farmer as a producer is of inestimable value there is no reason why hygiene for the farmer should not be taught as well as hygiene for the stock. Are you willing to take the initiative in such a plan?

Popular articles in the press are more often condemned than approved by the profession due mainly to jealousies and a presumption that personal aggrandizement is the main object in writing, yet who is better fitted to present such articles than a member of the profession gifted with an ability to express these ideas in the language of the layman?

We are heaping a burden of responsibility upon the teachers in the public schools and increasing yearly the number of things we believe to be essential to general welfare of the child, yet I feel that the schools offer the best opportunity in the world for the introduction of the subject of oral hygiene. Let the physical welfare of the child be as important as its mental growth. In industrial sanitation it is not an uncommon thing for ordinances and rules to be enacted to prevent the transmission of disease by common carriers; why not enforce dental hygiene as a similar precautionary measure? This work should be taken into the grammar schools, since the largest number of children leave school before the high school period.

Before entering upon a discussion of the economic viewpoint, let me state that in most cities it costs on an average \$40.00 per year to educate each pupil; that pupils who are defectives are frequently obliged to repeat a year's work, thus duplicating the cost to the municipality; that excepting heredity and ocular troubles, most of the defectives are such because of diseases which exist or have their origin in mouth, throat and nose, and that from one-fourth to one-half the cost of educating the child would usually restore him to health and vigor and in the majority of cases increase his mental activities, if the work was performed by a municipal employee.

Again a large percentage of the loss of attendance in public schools is due to dental disorders, with its proportionate loss of revenue from the state. If dental clinics were established in the schools the pupils could receive preventive treatment and still be in attendance, so that the ulti-

mate cost to the community would undoubtedly be less than without them.

With regard to dental service from an economic viewpoint, I am going to ask your indulgence by quoting from a paper presented recently before the California Pediatric Society.

Public service by the dentist is purely an economic problem. Whatever the service may be, either preventive or restorative, the question of time is the principal factor. In medical work after the first examination or operation the routine work is usually brief. In dentistry every visit generally requires an equal amount of time to render a given service, and it is because of the number of hours required to perform this service that the dentist is unable to give freely of his time. As compared with the physician, one-half of his time will not produce an income sufficient to build a home, educate his children, and provide for his retiring years, and he is, therefore, unwilling to give a half day, each day, in such service.

The problem must be met by the appointment of full time or part time dental internes at a moderate salary to perform routine work, and a consulting dental surgeon whose judgment and experience may be sought in the unusual cases; their service will have an educative value only through observation and not through instruction.

This plan can be uniformly applied to public school clinics, private dental infirmaries as the Forsyth at Boston, hospitals, department stores, as in the Emporium in San Francisco, etc., and the sooner we make provision for, or urge the establishment of these clinics, the sooner we will reach the children.

The medical profession can materially aid in a movement now being inaugurated in the United States, endorsed by men interested in preventive dentistry but opposed by others, chiefly boards of examiners, who fear that the dental nurse will gradually enter the ranks of the illegal practitioner of dentistry, and that is the inauguration of prophylactic treatment in dental offices by dental nurses, usually women. This plan accomplishes two things—it renders a satisfactory service in preventive dentistry to the dentists' clientele, at regular stated intervals, at less cost than regular dental service, both to children and adults, thus inculcating good habits in mouth hygiene on the part of the patient, and it provides lucrative employment for a better type of women. The dental hygienist, as she is called, confines her work to ordinary scaling and polishing of the teeth. Her duties in no sense involve any risks on the part of the patient except possibly the risk of infection which can be easily met, and she is never entrusted with the responsibilities of the medical nurse as instanced in the use of opiates, in cases of collapse and in obstetrical work. Her greatest field of usefulness is with children, both in private practice and in school and other public infirmaries. The medical profession is in a position to urge the adoption of this plan.

It is hoped that, following the interest manifested by medical men in pyorrheal infections, those interested in research will attack some of the other unsolved mouth problems. Dentists and dental schools are not yet in a position to do much along these lines. The former because present requirements do not provide proper educational qualifications, and the latter have not as yet received such recognition as it manifested in specific endowments.

Let us endeavor to provide the parents with such knowledge as will enable them to render the best service to those in their charge from infancy to maturity, the physician from the period of gestation to adolescence, the teacher during the school period, even in the university, and the dentist during all the time he may come in contact with the mothers and children, in the hope that preventive dentistry will be a future probability.

PRE- AND POST-OPERATIVE CARE.*

By OLGA McNEILE, M. D., Los Angeles.

During the past few years we have all noticed many sporadic attempts to standardize the care of the surgical patient, both before and after operation. The attempts have nearly always failed to elicit any enthusiasm, either because the collaborator had tried to introduce some theoretical methods, or because surgeons as a class lay more emphasis upon operative technique than upon details of pre- and post-operative care. This lack of detail is probably the cause of many poor surgical results.

My plan in this paper is to cover the entire ground of routine pre- and post-operative care in pelvic and abdominal operations upon women. It has been my practice during the past five years to gradually work up a printed order blank, which is left on the patient's chart in the hospital. Enough blank spaces for orders covering individual variations, are left on this record, but in general the treatment is very nearly routine. I shall discuss these routine orders and give reasons for my preferences.

The question of diagnosis is of first importance. Every case must have a complete physical examination, covering head, chest, abdomen and pelvis. Urinalysis is done as routine; blood examination in nearly every case. I do not rely upon a superficial examination of heart and lungs by an anesthetist—he would spend five minutes upon an examination which should require at least thirty. By making this complete examination we find as far as possible, everything which might influence the patient's general health.

We may then proceed to do all the necessary operative work at one operation. Take, for instance, a woman with a chronic appendix. We precede the abdominal work by perineal and cervical repair, if indicated. As soon as abdomen is opened we explore entire cavity, especially the gall-bladder, pylorus, stomach and kidneys. If any pathological condition besides the appendix is rec-

ognized, the necessary surgical treatment is carried out.

It is surprising to find what a large number of women have had one or more abdominal operations for the relief of pelvic symptoms, when the underlying cause of a great number of them is a relaxation of the pelvic diaphragm. If the abdominal operation is preceded by the necessary repair work, we have a healthy, grateful patient as an end result; if we fail to do this we may have a recurrence of all symptoms, a dissatisfied woman, and a good candidate for Christian Science.

After all preliminary examinations are completed, and the day for operation is fixed, we give the patient the following instructions:

1. Forty-eight hours before entering the hospital take twice the usual dose of your preferred laxative.
2. Limit your diet to fruits, vegetables and cereals. Avoid meat, cheese, nuts, pastry, cake, and alcoholic drinks.
3. Drink from two to three quarts of water daily.
4. Take a hot tub bath each evening.
5. Sleep at least ten hours in twenty-four (if insomnia from nervousness is real, I give bromides).
6. Enter the hospital at least twenty-four hours before the time set for operation.

Pre-operative care of the patient in the hospital.

1. Laxative. If we have obtained good results from the laxative given at home, a soap suds enema is given the patient when she enters the hospital. Generally the patient is given one ounce of castor oil upon admission.

All cases are given enema at least two hours preceding operation, and nurse is instructed to repeat until water returns clear.

2. Posture. Except in temperature cases, patients are not put to bed until the hour of the usual bed time.

3. Diet. Light diet. No breakfast on morning of operation.

4. Hot tub bath early in evening preceding operation (given as much for sedative action as for cleanliness).

5. Local preparation. Shave abdomen or vulva, or both. No scrubbing or other local preparation.

6. Oral hygiene. Paint gums with pure tincture of iodine. This is followed by use of an alkaline mouth wash at three-hour intervals. (All necessary dental work should be done before operation.)

7. Catheterize 15 minutes before being sent to operating room, if patient is unable to void at that time.

8. No opiate is given before operation.

In the operating room.

The anesthetic, ether or gas, is given on the operating table. It is not started until all preparations are complete.

2. Local preparation. For abdominal preparation benzene, followed by full strength tincture of iodine, which in turn is removed with 50% alcohol, is used as routine, while for vaginal or perineal cases 2% tincture of iodine is used.

3. Operative procedure. Post-operative care in-

* Read before the Southern California Medical Society, at Los Angeles, December 1, 1915.

GYNECOLOGICAL PRACTICE OF DR. OLGA McNEILE.

Orders For.....	Room.....	Nurse.....	Date.....
PRE-OPERATIVE			
General	1.	Hot tub bath.	
	2.	Shave.....	
	3.	Light diet.	
	4.	In bed.....hours preceding operation.	
	5.	Enema.....hours preceding operation.	
	6.	Douche.....	
	7.	Mouth wash.....q. 3 hours.	
	8.	Catheterize 15 minutes before sending to Surgery.	
	9.	
Special	1.	Laxative.....at.....	
	2.	Sedative.....	
	3.	
IN SURGERY			
		Anaesthetic given on operating table.	
		Preparation: Vaginal.....	
		Abdominal.....	
		Wash stomach with tap water when anaesthetic is discontinued.	
		Use stomach tube cooled with ice.	
		Corset dressing.	
POST-OPERATIVE			
General	1.	Position in bed: Prone.....	
		Fowler position.....	
		Wheel chair.....	
		May walk.....	
	2.	Proctoceleisis: 40 drops per minute for.....	
		(Use tap water)	
	3.	KEEP PATIENT WARM. DO NOT EXPOSE. HOT WATER BAGS in receiving bed.	
	4.	Diet: Liquid.....	
		Light.....	
		Regular.....	
	5.	Water—As soon as retained after operation.	
		GIVE NO ICE. WARM DRINKS ONLY for 24 h.	
	6.	Catheterize q.....hours if necessary.	
	7.	Visitors.....	
Special	1.	Laxative.....at.....	
	2.	For gas pains: Rectal tube	
		1-2-3 enema	
		Eserine gr.	
		q. 2 hr. for	
		3 doses	One, or all, if necessary.
	3.	Douching: External.....	
		Vaginal.....	
	4.	For pain.....	
	5.	Perineal stitches.....	
	6.	Other special orders.....	

cludes the discussion of all factors which increase pain or lower the resistance of the patient. As far as possible all trauma to healthy tissue is avoided. For this reason I use no abdominal retractors or unnecessary hemastats or other crushing instruments.

The ordinary lap pad is tabooed, the ordinary five-yard pack being substituted in the interest of less trauma and saving of the time necessary to count loose packs.

Skin clips are used exclusively because they decrease post-operative skin pain.

4. Dressing. Incision is covered with two or three flat gauze sponges and a lap pad. A corset dressing is then applied, two strips on each side usually being sufficient. They are applied so that the pressure will be made directly over the incision, and not high up on the abdomen where it will cause pain by pressing on the already dilated stomach and bowels. No adhesive except corset dressing is used.

5. When the anesthetic is taken off the stomach is washed, using a small, firm tube, which has been packed in cracked ice. The solution used is sterile water. Gastric lavage is continued until the return fluid is clear. This procedure alone will reduce post-operative emesis at least 50%.

Post-operative.

1. Exposure of patient. Patient is covered with warm blanket for transit from surgery to room.

2. Receiving bed. This should be warmed at least fifteen minutes before patient is expected from

surgery. Under no circumstances should nurses begin to rustle hot water bags *after* the patient has been placed in a cold bed. By that time the damage is done.

3. Posture. The patient is kept on the back until she is awake, mainly because the nurse can control her better in this position. After this the patient may turn from side to side. After the first twenty-four hours every patient is placed in the Fowler position and kept in this position for three days and nights, or until temperature shows no inclination to rise. If temperature remains normal, the patient may be allowed to sleep in the horizontal position.

After the third day the patient is encouraged to sit upright in bed without the back-rest.

On the fourth day the patient is lifted into wheel chair and allowed to remain on porch for one or two hours. Patient is taken out every day, time being gradually increased until on the sixth or seventh day she is out most of the day.

On the eighth day the patient rests on feet while getting into wheel chair. She no longer uses the bed-pan, the slop-jar being substituted. The patient is allowed to walk on the ninth day.

I believe that early muscular action is of almost inestimable value to our cases. The term, "Atrophy of disuse," is not an idle fancy, and applies as well to the back and abdominal muscles of a bed-ridden patient as to the fractured arm tightly bandaged to splints. It has been conclusively demonstrated that a fatty degeneration of muscles takes

place in the muscles of patients who have been inactive for even a relatively short period of time.

This fatty degeneration may be responsible for two conditions, first, delayed union, and secondly, for a toxemia due to absorption of products of degeneration. This toxemia is undoubtedly the cause of the prolonged convalescence and post-operative weakness and nervous instability often noted.

A great many might claim that early rising would cause an increase in the number of post-operative hernias. With a properly fitted corset dressing the strain on the abdominal wall is not nearly as great as that caused by gas distention and the efforts of defecation.

4. Proctocleisis. Tap water, by the drop method, is given continuously for 24 hours, beginning as soon as patient is returned to bed. This is given in every case. The rate is usually about 40 drops per minute.

Proctocleisis raises the blood pressure and allays thirst, either result being sufficient indication for its use.

In cases of low blood pressure, hemorrhage, or rise of temperature, proctocleisis is continued for 48 to 72 hours, or longer.

5. Diet. Hot water and hot tea are given by mouth as soon as requested by patient. If emesis results we give more water. I prefer tea to plain water, because plain hot water is in itself nauseating to many healthy individuals. As soon as tea or water is retained other liquid nourishment is freely given. Ice or iced drinks are absolutely forbidden on account of increase in tendency toward intestinal paresis and gastric dilatation.

As soon as bowels move patient is placed on light diet which is continued for from 24 to 48 hours, and is followed by regular diet during remainder of stay in hospital.

Egg nogs are given between meals whenever indicated.

6. Laxative. One ounce of castor oil or three grains of calomel are given the second night after operation. A soap suds enema is ordered if bowels have not moved by noon of the following day.

Bowels are then regulated with a mixture of cascara, rhubarb, nux vomica and iron, which is given three times a day. Enemata if necessary are always ordered before 10 a. m., not only for the convenience of the patient but in order to regulate bowels which have nearly always been constipated.

7. Gas pains. If all of the routine preparations have been carried out, gas pains are not very common, or if present, are not very severe. Standing orders for gas pain are: a, rectal tube; b, 1 2 3 enema; c, Eserine, gr. 1/50 every 2 hours for three doses. The choice and application of these methods is left absolutely to the nurse, for I feel that the nurse is better able to judge as to what method will prove most efficacious at a given time.

8. Care of sutures. Except when there is a rise of temperature, abdominal skin sutures or clips are not inspected until the seventh day, when they are removed. Primary union, if it is to occur, has taken place by this time, and if sutures are left in

longer they act as foreign body irritants, and tend to form stitch abscesses. After removal of sutures incision is sponged daily with alcohol.

Perineal sutures are kept dry and wrapped in sterile gauze. After urination or defecation the parts receive a flushing of 1/2% lysol, are carefully dried and re-wrapped. They are removed on the seventh day.

9. Douches. No vaginal douches are used under any circumstances, except for purposes of cleanliness after first week.

10. Catheterization is as usual only resorted to as a last extreme. Puitritin has given almost immediate results in several cases in which bladder was well distended.

11. Stimulation. I have depended more upon the drop method than upon drugs. The routine preparation and after care has almost eliminated the necessity for stimulation.

12. Pain has almost been eliminated by short incision, rapid work, and extremely gentle handling of tissues, no retractors being used.

A standing order for heroin gr. 1/12=1/24 p. r. n. Very few patients require more than four-twelfths in 48 hours.

13. Visitors are absolutely restricted. Young children are not allowed to see their mother during first week.

PATIENT'S POST-OPERATIVE INSTRUCTIONS.

Take laxative three times a day, gradually decreasing the dose. Go to stool at the same time each day. Eat three meals a day, with fruit between meals, and a cup of hot milk before going to bed. Drink at least two quarts of water each day. Daily tepid sponge bath. Ten hours' sleep at night, and two hours in the middle of the day. Increase walking gradually, so that at the end of the third week you can walk all over the premises. At end of fourth week walk two or three blocks, and come to the office for final examination.

Sexual intercourse is forbidden for from six to twelve weeks after repair work, and patient is cautioned against becoming pregnant for at least one year.

Abdominal incision is sponged daily with alcohol, and corset dressing readjusted daily.

Final examination is made in the office four weeks after operation. Cervical sutures are removed at this time. Corset dressing is removed and patient sent to corset fitter to be fitted with corset suited for the individual case.

No claim for originality is made. This surgical care is the result of hard work, and has given excellent results in my clinic during the past few years. Too much of our present day treatment of the surgical patient has been empirical, originated in a period when modern surgical technique was unknown.

If surgeons will begin to record accurately the results of their pre- and post-operative care, instead of depending upon text-book treatment, we will soon develop an accurate knowledge of results, and may then standardize our treatment.

NATIONAL QUARANTINE AND ITS FUNCTION.

By ALFRED C. REED, M. D., San Francisco.

Words like men grow old and increase, diminish or change in their signification. Some are born for the life of an hour and a colloquial local usage; others rise naturally in due process of human need for them and fill out a sober, literal and useful existence to perish by inanition as the times change and leave them stranded on the sands of the past. Again certain words spring full-voiced into being when some slowly developing idea of the human mind suddenly becomes articulate and demands speech in which to make itself known. So did quarantine receive its name and in the five hundred years since its birth, it has grown and developed into a great and vital principle of modern society, and has in great measure cast aside the swaddling clothes of its original meaning.

The word took origin from the practice instituted by the Venetians and Lombardians in the fourteenth century of detaining for forty days (*quarante dies*) in public lazarettoes, all ships and their crews coming from the plague-infected Levant. True, in the seventh century the principle of quarantine was known in the orient but its occidental life began in Italy. Since then the principle of quarantine has kept pace with the increasing knowledge of the causes of epidemic diseases, and to-day the United States has a carefully organized and successfully administered national quarantine system.

This system constitutes an important part of the duties and responsibilities of the Federal Public Health Service. This service has a long and honorable history. When it was founded one hundred and eighteen years ago as the Marine Hospital Service, it had only to do with furnishing relief to disabled American merchant seamen. It was a very unique institution and distinctively American. Patriotic pride can find few objects worthier of contemplation than this service, which has fought so many battles of peace and health for the country. Its functions now include all phases of national health protection, and, as will appear, a large part of these are comprehended in the principle of quarantine.

National quarantine may be considered in two ways. First is the technical quarantine system of the country concerned with preventing the entrance of epidemic disease from foreign countries. Second is the much broader consideration of excluding all influences which tend to lower the public health status of the country.

The technical quarantine system of the United States embraces nearly sixty stations on the Atlantic, Pacific and Gulf seaboard. Officers of the Public Health Service are attached to each, and board all vessels coming to this country from foreign ports, examining to see that quarantinable diseases are not on board and that the vessels have complied with the foreign quarantine regulations of the United States. Each quarantine station has barracks for detaining crew and passengers from infected vessels and where a period of observation is necessary to make sure that some serious disease

is not harbored by them. An isolation hospital is likewise required for those actually ill. A crematory, disinfection plant, quarters for officers and attendants, and launches for boarding duty must also be included.

Six diseases only are subject to quarantine restrictions. These are leprosy, typhus fever, cholera, plague, smallpox and yellow fever. While there are others which are by nature epidemic as dengue, measles, scarlatina, diphtheria, etc., there is not the same danger of these getting beyond the control of local health authorities, nor are they so difficult to control or dangerous in their results if they are introduced. If any of these are found on board an incoming vessel the affected persons are removed to the quarantine hospital, the ship is disinfected and all persons on board are held in quarantine a definite number of days to see if more cases of the disease will develop from the exposure. Under certain conditions vessels from ports where these diseases are raging in epidemic form are held in quarantine long enough to insure that no cases will develop on board before sailing.

The three great diseases which are continually threatening and protection against which requires sleepless vigilance, are cholera, yellow fever and plague. Cholera will seek entrance more insistently than ever with the final ending of the European war, and the need for efficient quarantine will increase enormously. From the Slavic, Balkan and Mediterranean races will come the greatest danger of epidemic disease, particularly cholera. The disbanding of the armies will see it spread anew through Europe. The quarantine watch will need to be most rigid if America is to escape. The political disorder in Mexico has also brought a special quarantine problem in respect of typhus fever. Of course India and China, the home of epidemics, must always be guarded against.

We have also in the western hemisphere a health menace which will assume large proportions with the opening of the Panama Canal to full traffic. This menace lies in the west coast of South America. Here yellow fever and plague rage the year round. Here are some of the worst pest holes of the tropics. Modern sanitation and practical knowledge of these diseases has made but little efficient headway. With traffic established through the canal, direct steamer lines will connect these ports with our own cities on the Mexican Gulf and Atlantic coast. New Orleans remembers well her last disastrous encounter with Yellow Jack in 1897, and again how a terrible epidemic was narrowly averted in 1905 by the United States Public Health Service. New York had a similar experience with cholera in 1893. The western cities of South America will have to clean up or risk an embargo against them. The public is beginning to realize that these epidemic diseases are entirely preventable and that the United States cannot afford in money or lives to tolerate conditions which make them possible.

The Public Health Service conducts the present quarantine of the Canal Zone, Alaska, Porto Rico, Hawaii, and the Philippine Islands. The service is also giving the Philippines and Hawaii the best

public health administration they ever had. The Boston quarantine station has recently been transferred to Federal authority, and the New York quarantine, practically the last non-Federal survivor, has now a Public Health Service officer in command.

All vessels leaving foreign ports for the United States must comply with certain requirements of the foreign quarantine regulations of the United States, and must have a bill of health giving detailed information as to the ship, cargo, crew and passengers.

Quarantine may also be considered in a broader meaning of the word as the exclusion of all influences tending to lower the public health of this country. Every nation has the inherent right of protecting herself from harmful invasion from without. If it is to survive, this right must be exercised as a duty. No foreign foe is half so costly in lives and money as the disease foes with which we are constantly fighting. It taxes our best effort to make headway against the disease, ignorance, and disregard for sanitary law already existing in the country. It is very necessary to cut to the lowest possible point the introduction of anything tending to increase these conditions.

Specifically contagious and epidemic diseases must of course be kept out. Then must be considered those conditions which tend to produce an unhealthy and degenerate second generation. On the physical side are many diseases and infirmities which not only tend to make the victims dependent on charity for support, but even more seriously result in weakness, incapacity and disease in the descendants. On the mental side are insanity and all the various grades of mental defectiveness, including feeble-mindedness and epilepsy. These conditions are just as dangerous and finally cost the community just as much as plague, smallpox and cholera. And, moreover, instead of this stock tending to die out as is the case with the physically diseased and defective, it tends to reproduce faster than the average and for generations unnumbered the trail of the original defect or disease can be followed through an increasing host of the insane, feeble-minded, epileptic, perverted and degenerate.

Certainly our broad national quarantine against influences tending to lower the public health status must take full cognizance of this. For public health is complex and many-sided, and includes mental health and moral health as well as physical health. We find that in effect the exclusion of mentally and physically unsound immigrants carries out this principle and meets the need. The complete medical examination of immigrants is indeed an important feature of national quarantine; in fact, it is perhaps the most important.

Every one is agreed that unsound immigrants should not be allowed to land. But it is difficult to frame laws and administer them after they are framed which shall put into effect this generally accepted proposition. However, Congress has passed laws designed to effect this object, and every person must be interested in their effectiveness from the standpoint of public health. Wherever the public health interests of the country are at stake

there will be found the Public Health Service, ever vigilant, careful, studious, assisting the local authorities and correlating the activities of the various sanitary agencies throughout the country. So it is to be expected that this service should be entrusted by Congress with the responsible and onerous task of making physical and mental examination of all immigrant aliens. In addition, therefore, to its fifty and more quarantine stations in the continental United States, the Public Health Service has officers detailed at nearly as many more stations for the medical examination of arriving aliens.

It would be in the interests of convenience, economy, efficiency and expediency if the work of medical examination of immigrants were consolidated with quarantine. We have seen that the two are really one, and even now are conducted by the same corps of officers.

Public health is rapidly becoming of paramount interest. It must always be remembered, however, that the subject has many different phases, and that it must be considered in a relation so broad as to include or touch upon every activity of each person's mental and physical life. Two lines of endeavor are necessary to raise the standard of public health. The first of these is purely internal or domestic, and consists in improving conditions already existing. The second is external and protective, and consists in keeping out further extraneous influences of whatever sort which in any way are inimical to the public health status of the country. In other words, this second line of endeavor constitutes quarantine. And we see how the word itself has grown in signification and taken on a new and infinitely broader meaning.

WHY CORRECTIVE LENSES OFTEN FAIL TO GIVE RELIEF IN HEADACHES DUE TO EYE-STRAIN.*

By RODERIC O'CONNOR, M. D., Oakland.

By "corrective lenses" is meant an accurate correction properly adjusted in order to exclude troubles due to improper lenses poorly adjusted. By "eye-strain" is meant that due to the eye primarily and not that occurring as part of a general asthenia or as a symptom of some general disease. Conditions of actual ocular disease are also excluded.

It is the common belief among the laity that, if headaches or other symptoms of eye-strain are not relieved by glasses, nothing further can be done. In view of the fact that this belief is not uncommon among medical men it is probably worth while to make clear the reasons for the frequent failure of lenses to do good and for the not unusual occurrence of their actually increasing the symptoms.

Headache, as you all know, is a pain felt almost entirely in the dural distribution of the fifth cranial nerve. This sensation may be due to (1) direct irritation of the nerve terminals, (a) by toxic products, (b) by direct pressure, (c) by involvement in inflammatory processes; (2) or it may be due to reflex causes. In the latter an irritation in some one or other of the reflex arcs con-

* Read before the Alameda County Medical Association, November, 1915.

nected with the fifth nerve causes an irritation in its nerve cells which is projected outward to be felt as pain in the dural terminals.

Toxic headaches may be due to poisons from without, as alcohol, or from within, and of the latter the one of most importance, in connection with the subject, is that due to accumulation of the toxins of fatigue generated in over-active tissues especially the muscles. It is possible that the neurasthenic headache may be of this type in which the toxins generated by ordinary activities are felt disproportionately by the sensitive nervous system of such an individual.

Anatomy teaches that the centers of the third, fourth, fifth, sixth and seventh cranial nerves form a closely related group all interconnected and that the fifth is the sensory nerve for the area supplied by the others as motor nerves. Therefore, it is in the reflex arcs of those four nerves three of which are motor nerves of the eye. Further there are branches of communication to its ophthalmic division from each of the three motor nerves of the eye, these being the nerve fibers of ordinary sensation for the ocular muscles. Therefore, we have three possible causes for reflex ocular headaches:

(a) Pure over-work of the oculo-motor centers with over-flow of irritation to the neighboring fifth nerve center.

(b) Direct irritation of the sensory terminals in the over-acting muscle as a result of such constant action—the mechanism being similar to the pain felt in a cramped muscle.

(c) Direct irritation of these sensory terminals in the muscle by the fatigue toxins generated by such over-action.

These last two causes act in a similar manner, in causing reflex headaches, to those due to irritation of a nasal sensory branch by pressure or inflammation. As the muscles of mastication are supplied by the fifth nerve we have an explanation for the production of headaches, from their over-action, such as occurs in gum-chewing.

It is important to remember the following well established facts in muscle-nerve physiology in connection with the ocular conditions to be described.

First. All muscle tissue has a tremendous reserve power which cannot be elicited by normal action of the nerve cells, therefore it never becomes exhausted as a result of such action. This is shown by the fact that muscles can be electrically stimulated to powerful contractions after the power of voluntary contraction is lost by exercise. The idea of fatigue is therefore ordinarily a nerve sensation which brings us to point

Second. Nerve cells tire comparatively rapidly on continued action but recuperate rapidly as compared with muscle tissue which, once thoroughly exhausted, takes a long time to rebuild itself. In this way the muscles are protected and are always in a condition to respond to normal impulses.

Third. Intermittent action of muscles, allowing proper intervals for rest, results in growth and development with a corresponding increase in endurance—the ability of nerve cells to generate stronger impulses for a longer time without fatigue.

Fourth. Continuous or too frequent contractions cause rapid fatigue. The principles of athletic training are based on the above facts and, properly regulated, the results are good. If overdone the man becomes "stale," which means that his nerve cells are always on the edge of fatigue and as result he "blows up" too soon.

In case of the eye it must be remembered that there are innervations that control the eyes as a pair as well as those that control each by itself. These all act so as to maintain binocular single vision both for far and near. In eyes that have normal balance the muscles are so toned and adjusted that they see singly for far and near without any special innervation in addition to that required for the normal accommodation-convergence function. This means that the eyes are orthophoric and for distance are at rest as far as the extra-ocular muscles are concerned. The desire for binocular vision is practically beyond the control of the will although it may be overcome by special practice. This being so, if the eyes are not perfectly balanced but tend to turn out of parallel, a continuous impulse must be furnished the proper muscles, otherwise diplopia would occur. For example, in exophoria (divergence tendency) as long as the eyes are open an extra innervation must be supplied the two internal recti in order to prevent double vision. This is a case of continuous and therefore exhausting exercise. Long continued use for near, even of normal eyes, may thus cause an insufficiency of convergence.

The accommodation-convergence function is also of especial interest in this connection. As we focus for near we also converge and the normal relation is approximately two degrees of arc for every diopter of accommodation. This can be figured out trigonometrically. If the interni are too weak there occurs an exophoria for near. This, if moderate, can be overcome by extra innervation of the interni. If more marked there is an actual insufficiency of convergence in which by no effort can the eyes be made to converge the normal amount. Consequently in these conditions we have still further examples of continuous exhausting work. It is interesting to note that, for comfortable use of the eyes, there must be a reserve power of accommodation of one-third of the total, while there must be a reserve power of convergence of two-thirds of the total. It is possible for a case to have symptoms of insufficiency of convergence, therefore, even though his actual convergence may be normal, if his near work is closer than one-third of the total—measured in angles.

The causes of eye-strain in relation to refractive errors and their correction by glasses may now be taken up.

A. Pupillary asthenopia is often found in the tropics, desert regions and under other conditions of intense glare calling for over-action of the pupillary sphincter to protect the retina. Lenses, of course, will not help unless tinted.

B. Accommodative asthenopia is due to over-action of the ciliary muscle and occurs oftener in hyperopia where accommodation is required even for clear distant vision. Sometimes it is very

severe in early presbyopia where the ciliary muscle must act disproportionately in order to obtain the proper response from the hardening lens. In this condition it must be remembered that only two-thirds of the accommodative power can be used continuously in comfort. These conditions in the absence of extra-ocular imbalance are always relieved by proper lenses; therefore, when such lenses fail to give relief the trouble cannot be accommodative.

C. Muscular asthenopia is due to imbalance of the extra-ocular muscles so that the eyes balance out of parallel. There are two general kinds—true and false. The latter is due to the effect on the balance of the accommodation-convergence function. This has been mentioned before—that for every diopter of accommodation there occurs two degrees of arc of convergence which equals four prism degrees. This fact therefore is the real reason for the frequent failure of lenses to do good and for the not uncommon occurrence of their actually increasing the symptoms. They may not sufficiently correct or may increase an imbalance.

The following are the special varieties of imbalance.

1. Esophoria—a tendency for the eyes to converge. This is the usual balance in hyperopia because of the constant accommodative effort. If of the proper relation symptoms will always be relieved by lenses. If in excess of that relation the symptoms may be only partially relieved. If, however, this imbalance occurs in myopia lenses, by bringing the accommodation into play, increase the imbalance and also the symptoms.

2. Exophoria—a tendency of the eyes to diverge. This is the usual balance in myopia due to the lack of use for accommodation. It is most marked in the near test and theoretically should not occur in the far. When this balance occurs with hyperopia it is evident that lenses by relieving the accommodation will relieve the convergence, thus increasing the divergence and also the symptoms. In myopia the condition for near will be more or less completely relieved by lenses. However, when in excess of the proper proportion, the remainder may be enough to cause persistence of symptoms.

3. Hyperphoria—a tendency for one eye to turn above the line of vision of the other. This deviation is often increased in convergence and then may act as a cause of an apparent insufficiency of convergence in that the vertical diplopia prevents fusion of the two images and so removes the stimulus necessary for convergence. Lenses of course have no effect on this balance. This deviation is corrected by extra innervation to the muscle that will bring the eye to the proper level. In view of the continued action of the innervation and muscle, symptoms are severe. Stevens estimates that the effort required to overcome one degree of hyperphoria equals that required for 15 degrees of exophoria. This is probably an over-estimate, as the two images can be brought to a level by head tilting.

4. Cyclophoria—a tendency for the vertical axis to rotate in or out. A true cyclophoria is not relieved by lenses. A compensating cyclophoria oc-

curs in connection with oblique astigmatism, as this condition causes a twisting of objects which can be corrected only by a compensating twist of the eyes in order to have vertical lines appear vertical. This condition is therefore relieved by the proper cylindrical correction.

5. Insufficiency of convergence. The normal reading distance (13 inches) calls for a convergence of three meter-angles, therefore the normal maximum convergence should be nine meter-angles in order to have two-thirds in reserve. This means a convergence near point not further than 4.5 inches from the rotation centers of the eyes. A case showing diplopia at eight inches has only five meter-angles of convergence, therefore when working at thirteen inches has only two-fifths in reserve. Convergence should be measured with corrective lenses.

This condition may be due to (a) exhaustion of convergence centers from excessive near work, (b) inherent weakness of the interni so that a normal impulse will not produce the proper result, (c) a naturally weak convergence center that cannot produce a normal impulse. Rest from near work with proper exercises will cure the first and probably improve the last. Shortening the interni, by operation, will cure the second and third (if exercise fails) by strengthening the muscles so that the proper result will be obtained from the available nerve impulse.

TREATMENT.

The indication is to put all the muscles and innervations at rest for distance (the ciliary muscle by lenses) and for near to have only the accommodation-convergence function at work within its normal range of power. There are three general lines of treatment available:

First. The use of prisms in position of rest for the weak muscles. These act by bending the rays from an object so that the weak muscle is relieved from making the necessary corrective action. It is clear that they do not cure the condition but act simply as crutches and often still further weaken the already weak muscles. In addition they cause trouble by interfering with the idea of direction and, if of any strength, they cause colored halos around objects through their power of breaking light into the colors of the spectrum. In my opinion they are to be used only when the patient refuses to submit to the correction of the deviation present.

Second. By weakening the stronger muscles. This should not be done unless it is positively established that the muscle is above normal in strength—this in order to avoid securing a balance of weakness. This line of treatment means tenotomies—partial or complete. Partial tenotomies of the externi can cause little harm, as there is no great need for divergence, and a properly performed operation will not lessen the outward rotation of the eye below normal. Tenotomies of the interni often cause harm because they can only serve their purpose by weakening the muscle. Consequently, while perfect balance for distance may be obtained, there may occur an insufficiency of convergence to cause as much trouble as the original imbalance. Theoretically as well as practically it is wrong to

weaken any muscle unless it is above the normal in power, not simply because it is the stronger of the two opponents.

Third. Strengthening the weaker muscles and innervations is the correct practice and gives by far the best results in the great majority of cases. This can be done in one, or both, of two ways: (a) exercises, (b) shortenings or advancements.

(a) In regard to exercises it may be well to remember that, when successful results are secured, the muscles and nerves are apt to be in a condition similar to those of a well-trained athlete and can be kept in that condition only by more or less constant exercise. It is not uncommon to see athletes, on ceasing training, revert to a condition worse than that of the average man who has never gone through severe courses of training. Also it must be remembered that the ocular muscles have plenty of exercise in the rotations incident to ordinary use. Exercises therefore chiefly develop the innervations by teaching them to generate more powerful impulses for a longer time without fatigue. The results are much better when exercising the internal recti as convergence is naturally well developed, giving a better foundation to work on. There being no need for divergence of the eyes, exercises of the external recti do not give as good results. Last, but not least, is the great difficulty of inducing people to carry out a course of exercises properly and consistently.

(b) Shortenings and advancements can cause no harm when properly done and give normal action at all ranges. An over-result is practically unknown, so that the worst that can happen is to fail to get a sufficient one which can be easily corrected by a second operation on the other of the involved pair. They are to be done in cases of divergence due to weakness of the interni and also in cases of insufficiency of convergence, even though the distance balance may be normal, after exercises have failed. In cases of internal deviations the externi should be shortened, as I believe it is wrong to cut an internal rectus in any of these conditions. In cases of exophoria where convergence is normal, the externi may be partially cut without doing harm, because we have proven them to be above normal in power.

Fourth. There is a line of treatment available in young people with an excessive accommodation. It consists in giving concave lenses, and so can be used only in cases of exophoria with hyperopia. The concave lenses increase the hyperopia, increase the action of the accommodation and convergence, and so decrease the exophoria. When this succeeds, as it did in a case I will report, it shows positively that the symptoms are due to the extra-ocular imbalance as our correction has increased the accommodative strain. Such corrections do good only as long as the accommodation holds out, and therefore are only for temporary and diagnostic purposes.

If a headache persists after a normal balance is secured for far and near when wearing the corrective lenses (relieving accommodative strain) there is only one other possible ocular cause (in the absence of actual disease, such as glaucoma),

and that is the condition known as retinal asthenopia. In this there is little endurance in the retinal nerve cells and the condition is usually a symptom of neurasthenia or hysteria toward which the treatment should be directed.

Many eye headaches are typically migraine as far as the symptoms are concerned. The fact that one may be hereditary has no diagnostic significance, as extra-ocular imbalance is even oftener a family anomaly. Neither does vomiting indicate true migraine, as the pneumogastric center is in close relation with the oculo-motor centers and any irritation in them may easily overflow to it with a consequent nausea and vomiting. Nausea is a rather common symptom of eye-strain. To support these statements the following case is quoted from Posey and Spiller on the "Eye and the Nervous System":

"A striking illustration of this group of cases was afforded by a young lady, a guest in the writer's house. She arrived from a long journey entirely worn out. The following morning she was unable to appear at breakfast and was found in the throes of a violent sick headache. The eyes were red, the lids swollen, she had photopsies which she described as wheels of fire and circling balls of red light. The pain was more severe in the right side of her head. She related that she suffered from these attacks two or three times a month since adolescence; that when an attack was imminent she usually woke in the morning with dim vision, scintillating flashes of light and 'wall of troy' figures, in the periphery of the field of vision, which at times would present all the colors of the rainbow. These would repeatedly narrow down to near the center of the field, then widen out into broader circles, grow fainter and gradually disappear, leaving her with obscured central vision, objects being seen as through a veil. This obscuration would last but a brief time, but was always followed by nausea and vomiting and the onset of a violent headache, usually a right hemicrania at first, which later spread to the entire head. Every noise or ray of light added to her suffering, the slamming of a door being especially excruciating, as it seemed to her to shake the whole house. The attacks usually forced her to remain in bed for the entire day, and her head felt sore and tender for a day and often two days after the subsidence of the acute symptoms. Her mother and older brother had suffered in the same manner from her earliest recollection.

"A solution of atropia was instilled immediately into both eyes and repeated at brief intervals. All other means of relief were omitted. In an hour the pain subsided and in two she was able to come downstairs to my consulting room. I found a hyperopic astigmatism, not in high degrees, but with the axis of the required correcting cylinder against the rule in the left eye and diagonal in the right. There were absorption changes in the fundus of each eye and a macular retino-choroiditis in the right, a fact which, together with the diagonal meridian, explained the right hemicrania. After a few days of treatment she received a pair of glasses. These she has worn for twenty years with no recurrence of her attacks of 'migraine.' She has suffered rarely from a dull headache, but then

only after stress of circumstances or when her glasses were fitting badly."

The following cases are a few cited from my own records to show what results can be obtained by proper application of the principles outlined:

1. A case of 15 prism degrees exophoria with hyperopia. Her actual correction had been given her by a specialist who believed that any muscle error adjusts itself to the correction. Of course her headaches immediately became more severe. I gave her a concave correction which reduced her exophoria to 4.5 degrees. With these she had comfort for two months when the accommodative power failed. This proved the cause of her trouble, so an externus was cut giving perfect lateral balance. This was in 1908 and I kept track of her till my return from Manila 18 months later, during which time she maintained the balance and was entirely free from headaches.

2. A case of hyperopia with 6.5 degrees exophoria made worse by lenses. Headaches were constant. She had tried exercises without relief. A partial tenotomy of an externus was done and lateral orthophoria secured. She has maintained that condition the past six years with no eye headaches.

3. A case of esophoria disproportionate to the amount of hyperopia present, so that lenses did not relieve the headaches, which were severe and constant. A partial tenotomy of an internus was done correcting his esophoria to 1 degree, which was not enough to cause trouble and his headaches ceased. This was seven years ago. At that time I had not worked out my present shortening operation or the externus would have been shortened.

4. A case of 7 degrees exophoria with myopia, the correction having no effect on the balance. Exercises failed to give any relief from the constant headaches. A partial tenotomy of an externus reduced the exophoria to 1 degree and the headaches ceased for good.

5. A case of 8 degrees left hyperphoria. In these cases the higher eye should be lowered, unless it is higher because of a paresis of a superior rectus of the other eye, in which case the paretic muscle should be shortened. This is done because the ability to look down must not be interfered with. In this case the superior rectus was partially cut, resulting in vertical orthophoria. This condition he has maintained in comfort for six years.

6. An insufficiency of convergence-diplopia developing at 8 inches. In addition he had 7 degrees exophoria for distance. He is an epileptic and the desire is to relieve all eye-strains as possible reflex causes. His left internus was shortened so that now he can converge to 2.5 inches, which is well within the normal. His exophoria was not reduced, so a partial tenotomy has since been done, it being too soon to know the final result. This case is given to show the cure for an insufficiency of convergence.

The eyes, as the cause of obscure headaches, can not be eliminated till we show the following:

1. Relief of accommodative strain by proper lenses and with them—(a) balance for near, (b) balance for distance.

2. Normal convergence.

3. The proper amount of reserve convergence and accommodation as compared with the distance at which the eyes are used for near.

There are many cases of eye-strain causing severe symptoms due to one or more of the conditions described, who could be cured if they would permit the necessary procedures and carry out instructions.

The frequency of these deviations is very great and the troubles they cause are apparently disproportionate until one remembers the mechanisms involved. In children they often cause marked backwardness in studies and the victim is blamed unjustly for his apparent dumbness.

Finally, I wish to repeat, for emphasis. The automatic correction of these imbalances means a continuous action, during the waking hours, of the nerve centers and muscles involved. This, as shown by the established facts of muscle-nerve physiology, is productive of the direct and remote symptoms of fatigue very rapidly.

IMPORTANT

BEFORE

MAKING A PURCHASE

READ

YOUR JOURNAL

ADVERTISEMENTS

AND SEE

IF THEY DO NOT

CARRY

THE ARTICLE

YOU ARE LOOKING FOR

PLASMODIUM MALARIAE (QUARTAN) —A TYPE NEW TO CALIFORNIA.

Report of two cases.

By J. C. GEIGER, M. D., Assistant Director, and F. L. KELLY, M. D., Bacteriologist, of the Bureau of Communicable Diseases of the California State Board of Health, Berkeley.

While carrying out a plan for investigation of malarial conditions in the Sacramento Valley, submitted to and accepted by the California State Board of Health, our attention was called by Dr. B. F. Saylor of Redding to a case of malarial fever in a patient of his. From Dr. Saylor's patient we learned of another case showing similar symptoms.

Case No. 1. This patient has had many attacks of malaria on the same ranch, but not within the last ten years, and quoting from her remarks "not in the same form as the attacks last summer." From the history this patient undoubtedly received the infection some time in the spring of 1915. The paroxysms were at first very severe. They became less as the disease continued. Coincident with this decrease of the paroxysms, the general malaise progressed steadily until she was in an extremely weakened condition. The paroxysms came on the morning of every third day, with an interval of two days between attacks. In October, 1915, she was again ill with typical malarial symptoms for two weeks before a physician was called. Her chills came on in the morning of the third day and lasted about half an hour, with a temperature of 103°.

Case No. 2. This patient received his infection in the spring of 1914 and carried it over the winter months. When seen in October, 1915, the case was not having severe paroxysms. While he did not always have a distinct chill followed by fever, he had an attack every third day, ranging in severity from a slight chilliness and headache to a paroxysm of the regular type, with temperature. The atypical type of paroxysm was probably due to the fact that he was taking at the time more or less quinine in the shape of patent medicines.

LABORATORY EXAMINATIONS.

Blood smears were taken from both patients, and stained with Wright's stain. Slides from both cases, on microscopical examination, showed plasmodia easily demonstrated as quartan. The pigment was in large blocks arranged along the line of division between the merozoites. The merozoites were few in number, with definite nuclei. The reticulum was coarse. The plasmodia were regular in shape, and the red cells to which they were attached were slightly decreased in size.

CONCLUSION.

The clinical symptoms of the cases, with the endogenous cycle of the development of the plasmodia being 72 hours, demonstrated them to be quartan malaria. This was proven so on bacteriological examination. Quartan malaria has heretofore not been reported in California.

RUBEOLA.

By W. W. BEHLOW, M. D., San Francisco.

Rubeola, or measles, is one of the most communicable of all diseases. It is an infection peculiar to man although it has been produced in monkeys. Although most prevalent in the winter and spring months, it may be found in any large city at any time of the year. As a serious disease among children, it ranks as one of the most fatal of all the acute infections, there being about 12,000 deaths a year in this country.

Infection. Anderson and Goldberger¹ have demonstrated the virus of measles in the secretions of the nose and mouth. Hektoen² has shown that the virus is contained in the blood. The cause of the disease is not known. Rubeola is very contagious during the prodromal stage and the stage of invasion before the appearance of the rash. It is at this time that most of the damage is done. The infection of measles soon dies out and there is little danger of transmission of the infection after the fever subsides. The ordinary period of isolation is two weeks from the onset of the disease.

Immunity. Susceptibility to the infection does not diminish with increasing age. One attack usually confers a definite protection against second attacks. However, recurrences are more common than in the other eruptive fevers. The first few months of life are relatively immune.

Transmission. The secretions of the nose and mouth contain the virus. The desquamation does not carry the virus of the disease unless the skin become infected through the secretions. Measles is not air-borne. Droplet infection is very possible. The infection is transmitted usually from person to person. Third persons or fomites may in rare instances convey the disease.

Incubation. Ten days to two weeks, more often nine to eleven days with the eruption appearing on the thirteenth or fourteenth day after exposure.

Symptoms. The prodromal stage lasts from two to four days. The invasion is characterized by fever, coryza, lachrymation, and cough. After the first day there is often a marked drop in the temperature and this often leads to the belief that the patient has had some transient febrile disturbance. However, the other signs do not abate but rather increase in severity. Examination of the mucous membrane of the cheeks will show the characteristic Koplik spots. On the soft palate and extending to the hard palate there is also seen a dark red macular eruption, similar to what is to appear upon the skin. Toward the end of the third or on the beginning of the fourth day, there appears on the face an eruption consisting of small macules or papules on a slightly reddened base. This eruption rapidly extends downward to the trunk and remainder of the body. The efflorescence usually reaches its height in about thirty-six hours. The temperature is also elevated at this time and remains so corresponding to the intensity of the eruption. Photophobia is well marked. Gastro-

intestinal disturbances are not infrequent at this time. The efflorescence shows a tendency to become confluent on the face and neck. It remains well marked for two or three days and then gradually disappears. The desquamation follows shortly and is furfuraceous in character. There is usually a pigmentation of the skin which gradually disappears.

Blood. Lucas³ has shown that whereas in infants and very young children the lymphocytes are normally in excess of the polynuclear cells, in measles there is a leukopenia, with the lymphocytes showing a greater diminution than the polynuclear cells. Thus the normal blood relations are reversed. This condition appears about one week before any other signs appear and is a definite aid in cases where exposure is known to have occurred. Another change is the great number of disintegrated white cells.

Treatment. Bed, freedom from exposure to cold, and care about diet are the principles of treatment. Early recognition and appropriate treatment of otitis media will lessen the number of permanent ear defects. A dark room is not essential for the patient. Instillation of boric acid in the eyes takes care of the inflammation and secretions. Codeine for the cough early in the disease and an expectorant later will suffice for the respiratory signs and symptoms. Early recognition of bronchopneumonia and empyema will make the prognosis more favorable.

Conclusions. Measles is a very fatal disease in infancy and early childhood. No age is immune to the disease. Recurrences are rare but do occur. Prevention and control of measles, like that of pertussis and tuberculosis is largely in the hands of the public itself.

Bibliography.

1. Jour. A. M. A., Ivii, Sept. 16, 1911, p. 971; Jour. A. M. A., Ivii, Nov. 11, 1911, p. 1612.
2. Experimental Measles: Jour. Infect. Dis., 1905, II, p. 238.
3. Amer. Jour. Dis. Child., Dec. 1913, p. 412; Amer. Jour. Dis. Child., Feb. 1914, p. 149.

233 Post Street
San Francisco.

SLOW POISONING BY "CHRISTIAN SCIENCE."

(Report of Caesarian Section on a subject of Myxedema of fourteen years' duration with living mother and child which was born a Cretin.)

By ROBERT B. DEMPSEY, M. D., Vallejo.

During my student days fourteen years ago I had brought to my attention a young woman who from a strong healthy girl gradually became a flabby, mis-shapen, sallow and edematous wreck with feeble mentality and sluggish mind. Even as an under graduate I could not mistake the diagnosis of myxedema and prompt relief was given by the administration of thyroid gland. For ten years I had her under observation and all this time she was absolutely well while she took thyroid, but about four years ago she got "Science" and refused to take any more medicine. She married about this time and gradually began to lapse into her former condition.

On January 12th of this year I was called to

see her at her home and found her so bloated as to be unrecognizable and learned for the first time that she was pregnant and expected to be confined at any time. At this time the urine was normal except for low S.G. 1010, and less than 1% of urea. Heart was very slow, 40 beats per minute and "swishing" murmurs were audible in mitral, pulmonary and tricuspid areas, which were probably caused by relative insufficiency of the valves, as they have all disappeared since; respiration was slow, only seven per minute and sighing and shallow.

The whole body seemed to share in a general edema with localized areas of great size. The legs were very edematous and would not pit on pressure, while vulva and thighs were so swollen as to render vaginal examination well nigh impossible. As near as could be made out vagina was reduced to a small rigid tube probably caused by the infiltration of myxomatous tissue in the perivaginal structures.

Owing to the ascitic fluid in the abdominal cavity and the edematous condition of the abdominal wall, the position of the child could not be made out and the heart sounds were inaudible though the placental bruit could be distinctly heard and movements of the child ascertained.

I removed her to the hospital at once and began the administration of thyroid substance with full doses of Inf. Dig. and citrate of potassium, as well as rectal instillation of Fisher's hypertonic solution. At this time urine was extremely scanty and boiled solid in the tube and soon the kidneys refused to secrete at all. Labor began at this time and as delivery by the normal route was out of the question a Caesarian section was made and thirty-five minutes from beginning of anesthetic, which was nitrous oxide and oxygen, the patient was off the table and a five-pound boy had been delivered, who cried lustily and seemed none the worse for his unusual advent into the world.

Patient recovered from the anesthetic almost immediately with pulse 160, resp. 56 and temp. 98°. At no time during convalescence did temp. reach 100°, but the pulse remained rapid and irregular and often so feeble as to be absent at the wrist, while respiration was so shallow as to require the continuous administration of oxygen for 72 hours. Her mental condition from the beginning was that of an infant and she manifested an utter indifference to all that was going on around her, refusing to use bed pan or urinal and eating and drinking only when it was forced into her mouth.

As kidneys refused to functionate patient was put into continuous hot moist packs and every effort made to relieve the kidneys, which responded after 72 hours and she slept for the first time since the operation. During all this time there was active delirium and restraint was necessary.

At this time, three weeks later, urine is almost free from albumen, pulse is 90, resp. 23 and temp. normal, while mental and physical condition is very much improved.

Contrary to most all authorities the child showed all the physical signs of Cretinism at birth, flat nose, large everted lips, abnormally large tongue, heavy and protuberant superciliary ridges and a general sallowness and infiltration of all subcutaneous tissues. Small doses of thyroid substance were given the child at once, with marked and almost immediate improvement and at the present time it is fast losing its appearance of Cretinism and is almost normal though smaller than an ordinary child of like age. Artificial feeding was begun at once as the mother had no milk and the child bids fair to grow up a normal man

if supplied with the thyroid substance which it apparently now lacks.

Conclusions.

That it is possible to deliver a mother in the extreme stages of myxedema of a living child by Caesarian section.

That the child of a myomatous mother may show all the signs of Cretinism at birth.

That thyroid substance is almost a specific for both mother and child.

That "Christian Science," like Franklin's definition of Philosophy, "Is a good horse in the stable, but an arrant jade on a journey."

SOCIETY REPORTS

MENDOCINO COUNTY.

On the evening of April 8th, at the call of the President, Dr. L. C. Gregory, a meeting of the Mendocino County Medical Society was held at Albion, in the office of Dr. H. H. Wolfe. Members present: Drs. L. C. Gregory, H. H. Wolfe, Edmund H. Sawyer, Frank C. Piersol, Carroll L. Sweet and Oswald H. Beckman. Also Drs. F. McLean Campbell and Harper Peddicord of Fort Bragg, visitors.

The main feature of the evening was a paper on "Fractures" by Dr. Sawyer of Navarro, who gave an illustrating recital on the various methods for the treatment of fractures. He especially emphasized the need of extension to overcome muscular activity, and that with the aid of proper counter extension the best results were obtained. He also explained the various Bardenheuer extension and counter extension apparatus.

The paper brought forth lively discussions on fractures and methods of treatment. Some objections were expressed to the Bardenheuer method on account of its complicated system and the difficulty of securing the apparatus.

The Society extended its vote of thanks to Dr. Sawyer for his instructive and excellent recital.

Ukiah was selected for the next meeting.

Our labors done, Dr. Homer H. Wolfe, our host of the evening, conducted us to the Albion Hotel to be banqueted. Dr. Wolfe's bounty was more than liberal as to quality, quantity, and the number of courses. Those banqueted gave him their sincere vote of thanks. May his shadow never grow less!

OSWALD H. BECKMAN, Secretary.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the residence of Dr. H. E. Sanderson, Friday evening, March 31st. Those present were Drs. H. E. Sanderson, J. D. Young, J. T. Davison, Margaret Smyth, Hudson Smyth, L. Dozier, C. R. Harry, R. R. Hammond, G. W. Walker, E. A. Arthur and D. R. Powell, with Drs. Reamer and Surryhne of Modesto and Dr. L. B. Crow and Dr. Burt Stevens of San Francisco as guests.

At the conclusion of the business meeting the chairman introduced Dr. Stevens, who gave a very able address on the subject of tubercular glands of the neck. From his long experience in handling many hundreds of these cases, he was able to present his subject in a comprehensive manner, speaking not only of the etiology and pathology but of the treatment both medicinal and surgical.

After general discussion the meeting adjourned to a social repast which was bountifully prepared by Mrs. Sanderson.

DEWEY R. POWELL, Secretary.

The Los Angeles Society for Neurology and Psychiatry has been organized with Dr. H. G. Brainerd as President and Dr. E. H. Williams as Secretary.

SOLANO COUNTY MEDICAL SOCIETY.

At the annual meeting held on March 30, 1916, the following officers were elected: President, Dr. Jas. W. Brownlie; Vice-President, Dr. Francis Stolle; Secretary-Treasurer, Dr. Paul Reilly; Delegates, Dr. Ream. S. Leachman, Dr. B. J. Klotz.

SACRAMENTO COUNTY.

The regular February meeting of the Sacramento Society for Medical Improvement was called to order at 8:30 p. m. by President J. H. Parkinson.

Minutes of the past meeting read and approved. Reports of cases:

Dr. E. S. Loizeaux reported a new method of staining Spirochaetae.

Dr. E. W. Twitchell reported a case of Persistent Contraction of the Heart several hours after death.

Paper of the evening, "Spinal Anaesthesia," was then read by Dr. L. L. Stanley, resident surgeon of San Quentin prison. The paper was discussed by Drs. S. H. Marks of Pittsburg, Cal.; Francis Stolle of Dixon, Cal.; G. A. White, W. A. Beattie, F. Fairchild, E. W. Twitchell, J. A. McKee, E. C. Turner, Crawford, G. A. Foster. Discussion closed by Dr. Stanley.

The following motion was passed: That the delegates of this society to the Fresno meeting be instructed to use all honorable means to bring about a raise in the schedule of compensation to physicians under the Industrial Insurance Act, and to promote the welfare of the profession in relation to industrial accident work.

Adjourned 10:20.

F. F. GUNDRUM, Secretary-Treasurer.

The forty-eighth anniversary meeting to commemorate the founding of the Sacramento Society for Medical Improvement was held at the Hotel Sacramento, Saturday evening, March 18, 1916.

The meeting was in the form of a banquet followed by the paper of the evening, "The Insanity of Exhaustion," by Dr. A. W. Hoisholt of Napa.

President J. H. Parkinson officiated as toastmaster. The following toasts were responded to: "The Sacramento Society for Medical Improvement," G. A. White; "Sacramento Physicians," A. W. Hoisholt; "Sanitary Legislation," J. W. S. Butler; "Sacramento," G. C. Simmons; "The Medical Profession of To-day," E. W. Twitchell; "The Medical Profession in Relation to Preparedness," Major W. J. Hanna; "The Physician as a Public Servant," J. B. Harris. Vote of thanks tendered Dr. Hoisholt. Adjourned at 12:15.

F. F. GUNDRUM, M. D., Secretary-Treasurer.

RIVERSIDE COUNTY.

I wish to report that the regular monthly meeting of the Riverside County Medical Society for April was held at El Centro on April 3rd.

Three members of the San Bernardino County Medical Society and fifteen physicians from Riverside County chartered a private sleeper, leaving Colton at 1:00 a. m. Monday and returning Monday evening, arriving at Colton at 4:00 a. m. Tuesday.

After enjoying the hospitality proffered by the profession from Imperial Valley, which consisted of an automobile ride to Calexico and Mexicali and through the valley, the meeting convened at the Barbara Worth Hotel at 2:30 p. m., where the following program was given:

"The Surgical Treatment of Ruptured Duodenal Ulcer," by Dr. T. R. McHugh of San Bernardino.

Report of cases of Caesarean Section, by Dr. C. Strong of San Bernardino.

Symposium on Typhoid Fever: "Causes and

Prevention," by Dr. George E. Tucker; "Medical Treatment," by Dr. W. W. Roblee and Dr. C. W. Girdlestone; "Surgical Treatment of Complications," by Dr. H. R. Martin and Dr. C. Van Zwaluwenburg.

Following the program Dr. John C. King spoke briefly on the advantages of medical organization and the formation of a medical society in Imperial Valley with the result that a temporary organization was formed of which Dr. L. R. Moore of Imperial was chosen President and Dr. L. C. House of El Centro Secretary and Treasurer.

The Imperial Valley men will probably perfect a permanent organization immediately so that we will have another county unit with a probable membership of fifteen or twenty members.

I suggested to them that they forward the names of the proposed members to you in accordance with your instructions regarding new members for county units.

The meeting was most enjoyable and it was voted advisable to repeat the experiment at regular intervals.

It may be of interest to you to know that the San Bernardino and Riverside County Medical Societies reciprocate to the extent of issuing invitations to members of both societies for each of the meetings so that at the present time there are ninety members on our mailing lists. It was proposed to add the names of the Imperial Valley members to our lists.

Members present at meeting held at El Centro:

Dr. Eugene Le Baron, Brawley; Dr. L. C. House, El Centro; Dr. T. O. Luckett, El Centro; Dr. F. H. Carter, El Centro; Dr. C. S. Brooks, El Centro; Dr. H. E. Elliott, El Centro; Dr. R. K. McGuffin, Imperial; Dr. R. O. Thompson, Imperial; Dr. L. R. Moore, Imperial; Dr. F. H. Peterson, El Centro; Dr. W. W. Apple, El Centro; Dr. Dunham, Brawley; Dr. H. C. Atwood, Calexico; Dr. Ellis, Calexico; Dr. T. R. McHugh, San Bernardino; Dr. D. C. Strong, San Bernardino; Dr. C. C. Davis, San Bernardino; Dr. T. H. Evans, Loma Linda; Dr. H. A. Atwood, Riverside; Dr. C. W. Girdlestone, Riverside; Dr. Noer, Riverside; Dr. W. W. Roblee, Riverside; Dr. W. B. Payton, Riverside; Dr. C. Van Zwaluwenburg, Riverside; Dr. R. E. Moss, Riverside; Dr. C. S. Dickson, Riverside; Dr. H. R. Martin, Riverside; Dr. F. D. West, Riverside; Dr. J. C. King, Banning; Dr. Whiting, Riverside; Dr. George E. Tucker, Riverside.

GEORGE E. TUCKER, Secretary.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of March, 1916, the following meetings were held:

Tuesday, March 7th—Section on Medicine.

1. Baths in Arteriosclerosis. Wm. Watt Kerr.
2. A Proven Case of Addison's Disease. J. Wilson Shiels.
3. Chronic Myocarditis with Embolic Manifestations and Fever. Simulating Clinical Course of Bacterial Endocarditis. I. C. Brill.

Tuesday, March 14th—General Meeting.

1. Activity of the United States Army Medical Officers in Time of Peace. Captain L. L. Smith.
2. Organization of the Medical Department in Time of War. Captain F. W. Weed.
3. Red Cross Work Under Urgent Conditions. S. O. Beasley.

Tuesday, March 28th—Section on Eye, Ear, Nose and Throat.

1. Incipient Systemic Disturbances as Shown by Ocular Signs. E. W. Alexandr.

2. Tumor of Antrum, with Intracranial Signs: Presentation of Specimen. J. M. Wolfsohn.

3. Eye and Ear Affections in Intracranial Lesions. H. C. Naffziger.

The Children's Hospital Clinical Evening—Tuesday, March 21.

1. Orthopedic Cases:
 - a Club Foot. T. A. Stoddard.
 - b Pathological Fracture of the Base of the Femoral Neck Following an Old Tuberculosis.
 - c Separation of Upper Femoral Epiphysis.
 - d Osteoarthritis of Hip. J. T. Watkins.
2. a Brain Tumor Treated by Puncture. Rachel Ash.
 - b Case of Persistent Thymus with Pneumonia and Complicating Diphtheria. Rachel Ash and E. Stadtmuller.

Discussion.

Dr. J. Rosenstirn: I would like to ask what the X-ray pictures showed in Dr. Ash's case, as to the Sella turcica and the pituitary body?

Dr. Langley Porter: I would like to point out the interesting fact of recovery of this case of Dr. Ash's. I had the opportunity of seeing this child, and she certainly gave a picture of extremely grave hydrocephalus. It seems to me that the explanation of recovery lies in the fact that the puncture of the ventricle was a sufficient drain to relieve the hydrocephalus, as has happened in a number of cases reported by us last year.

The other case is also of extreme interest, and illustrates how careful one must be in accepting reports of thymic death. We had a case within the last week; the child was playing at 3 in the afternoon, when he complained of pain in the ear and came crying to his mother, who found the temperature somewhat high. After a few minutes he stopped complaining of pain in his ear and went back to play. At 6 o'clock he came into the house and the mother took his temperature, which was found to be 106. She sent for her physician who examined the child and found nothing of moment. He went away and in the night the child was taken with convulsion or rigor. Another physician was sent for and the child was treated very properly. Another rigor when the physician was out of the room—temperature 108, still remained unconscious. I saw him about 3 o'clock in the morning; in extremis, stertorous breathing; the signs suggested that he might have acute polio-encephalitis. The ear drum was not red, but certainly was not bulging. The child died the next morning, and autopsy showed a huge thymus; there had not been any signs of thymus enlargement. The middle ear contained a small quantity of pus, from which streptococci in pairs were obtained; cultures from the spleen gave the same organism. Nothing else was found, and there is no question that the child died of streptococcic septicemia; yet had the ear not been opened and cultures made, the child would have been credited as a case of thymic death.

Dr. Stadtmuller's child probably died of diphtheretic intoxication, not of thymus involvement.

Dr. Ash, closing discussion: In reply to Dr. Rosenstirn, I wish to state that X-ray plates of the skull were taken in the first case, but nothing pathological was seen. I can not agree with Dr. Porter. I do not think that drainage of the ventricle with the astonishing sequel means permanent recovery. I looked through the literature, hurriedly, it is true, and found that very frequently years have elapsed between the initial symptoms and the final fatal outcome. In the

majority of these cases, tumors, often very small, were demonstrated post-mortem.

3. A Case of Protracted Hyperpyrexia. Langley Porter.

Discussion.

Dr. Harold Brunn: The very large doses of urotropin which Dr. Porter recommends in cases of colon infection of the genito urinary tract are at times very objectionable. The irritation which this drug causes in many cases can only add to the spread of the infection; it is, I think, a distinct menace. A very satisfactory method is to alternate the use of drugs causing the urine to change from acid to alkaline, and back again to acid. In this way the bacteria have no time to accommodate themselves to the changed environment and become attenuated in virulence. Potassium citrate, gr. XV t.i.d. makes the urine acid, and acid sodium phosphate gr. XV t.i.d. in solution turns it alkaline.

Dr. J. Rosenstirn: Following the last speaker's remarks as to the dosage of urotropin I should suppose that a decidedly progressive physician like Dr. Porter, should make exclusive use of the decimal system in medicine and say 4.0, instead of a drachm—or scruple—or ounce—as the case may be. I think it would be well for us as a Society to abolish the use of the old antiquated pharmaceutical weight and measures system, when the decimal system is in every way so much more preferable, based as it is on a rational principle, and so easy to understand and handle.

4. Acute Suppurative Osteomyelitis. Florence M. Holsclaw.

Discussion.

Dr. Harry M. Sherman. There is one point in this child's history that might be made more of, and that is the use of leukocytic extract. I have had a child with a history much like this, except that she has ankylosed joints. I gave leukocytic extract, and it was also given to this child. I did not see in the child I was treating that my leukocytic extract dosing produced any definite result. Perhaps you remember a paper by Dr. Reynolds of Palo Alto, in which he recommended the use of leukocytic extract in cases of pneumonia with leukopenia. I continued giving leukocytic extract for a longer period than Dr. Holsclaw did. I started to give it, and then did not dare stop it because something was keeping the child alive and if it was that it would be disastrous to have it stopped; but I could not say, when it was all over, that anything had been accomplished. It is known that children stand these massive infections for weeks and months and then they come out all right with the exception of certain crippling, and there are opportunities, of course, for osteoplastics, as we have seen this evening.

Dr. Holsclaw, closing discussion: I did not feel that the leukocytic extract was of any special benefit in this case; that was why I discontinued it.

5. Appendicitis in Children (from Hospital records for 10 years). Emma K. Willits, Malvine I. Judell.

Discussion.

Dr. W. I. Terry: Just one comment: I would draw the same conclusions that Dr. Judell did, but I would emphasize that the danger is in the giving of cathartics: not so much the danger of delayed operation as the first conclusion, but the danger of giving cathartics. More harm is done by giving cathartics to children when they have stomach aches than by deferring the operation.

Dr. Harry M. Sherman: I consider this an exceedingly instructive paper from every viewpoint:

the material is good, it was well managed and well presented. I think it is a paper that will stand a good deal of discussion. I agree absolutely with Dr. Terry, and at the same time I would call his attention to the fact that in his house as well as in mine, castor oil and calomel have overruled him as well as me.

In the making of diagnosis here, as in other conditions in children, I think we should trust our own observation rather than the history of the statement of the patient. Children cannot tell exactly what happens; children cannot tell exactly how they feel. If you ask a child to point where the pain is, he uses two or three fingers instead of one, and it is a vague pointing and not a definite one. The child's pain is somewhere in a rather vaguely defined region, and it is not always there. They sometimes forget that they have a pain. But if you can discover rigidity which you solicit yourself, it matters not whether it be in the belly muscles or those of a limb, then you can depend upon it with confidence. However, perhaps Dr. Judell's broad generalization that a rigid muscle anywhere in the abdomen means appendicitis, may be true.

Another point is taking out the appendix. Those of us like Dr. Rosenstirn, for instance, whom I assisted at some of his earlier operations, and later myself, who can look back and see the curious ways in which our patients disappointed, and the way in which now similar cases are successfully managed, will recognize that a tremendous step has been made in the technic of pus cases. Knox of Sioux City has written a great deal about removing the appendix no matter where it may be in pus cases, and gives statistics that are quite convincing. Why we can break up adhesions now where we could not 25 years ago is something difficult to understand.

Only one death in this series of cases, where the patients had run the gauntlet of domestic, medical and surgical treatment, is very commendable. I am exceedingly glad of it, and very proud of this series of cases, which occurred in the hospital which I have served for 31 years, even though I personally saw none of them.

Dr. J. Rosenstirn: I join the two previous speakers in praising the presentation of this paper, and certainly express my praise also of the excellent results accomplished in these 44 cases. Dr. Sherman spoke about those of our earlier operations, where we did not remove the appendix. We remember the express recommendations, not to try, in difficult cases with firm adhesions, to break these up too much in our search for the appendix, but rather leave the appendix to be removed at a later date. The reason for this was that we had not learned how to protect and wall off the surroundings from the field of operation in order to prevent the spread of infection. There is one thing I would like Dr. Judell to reconsider and that is the remark that on account of the large opening into the appendix in children, the concretions are easily brought from the bowels into the appendix. Concretions are not brought into the appendix, but are formed in the appendix itself, lodge there and cause perforations. Foreign bodies are brought from the bowels into the appendix, concretions never.

Dr. W. W. Behlow: Regarding pneumonia simulating appendicitis, St. Luke's Hospital last year had several cases of pneumonia which came into the hospital simulating appendicitis in every way. Fortunately, they were not operated upon because it has been the custom of many physicians who have patients there to subject these patients to an X-ray examination of the chest. It seems to me that every young patient who is brought to the hospital for appendix operation should have a Roentgen examination of the chest to definitely

rule out pneumonia, inasmuch as in children it is the only way many times that the diagnosis of pneumonia can be definitely made early in the disease.

Dr. Langley Porter: I would like to call attention to one little point, and that is the value of rectal examination under anesthetic. It is easy to make and is very certain in the information given; it is of value when the radiogram is not to be had.

I doubt very much if any really competent observer will operate on a case of pneumonia in mistake for appendicitis. It is a difficult thing at times to differentiate, but with the blood count, rectal examination and examination of the abdominal muscles, there is little chance for error.

Dr. Judell, closing discussion: Dr. Rosenstirn's remarks in regard to fecal concretions sound very reasonable.

Dr. Behlow, in regard to the radiogram—we had several cases that were both pneumonia and appendicitis, and the danger has been that the mere fact of having a radiogram might throw out your diagnosis—you must have your mind centered on appendicitis as well as pneumonia.

Dr. Porter, we had one case in which the rectal examination was the determining factor in operation. In doubtful cases the rectal examination is of considerable importance.

6. Treatment of Diphtheria. G. E. Ebright.

BOOK REVIEWS

The Starvation Treatment of Diabetes. With a series of graduated diets used at the Massachusetts General Hospital. By Lewis Webb Hill, M. D., and Rena S. Eckman. With an introduction by Richard C. Cabot, M. D.; 131 pages. Second edition. Boston: W. M. Leonard. 1916.

The first edition of this book has been reviewed and what was said then holds for this edition. In this, the second edition, the author has simply added a number of case reports which undoubtedly add to the reader's interest.

Quantitative Laws in Biological Chemistry. By Svante Arrhenius, Ph.D., M. D., LL.D., F. R. S., Nobel Laureate, Director of the Nobel Institute of Physical Chemistry, Stockholm. London: G. Bell & Sons. 1915.

This small volume of 164 pages is founded on three Tyndall lectures given in the Royal Institute, London, in May, 1914. The necessity for quantitative studies is well crystallized in one of his introductory sentences: "As long as only qualitative methods are used in a branch of science this cannot rise to a higher stage than the descriptive one." Five chapters include the velocity of reactions, the influence of temperature thereon, the quantitative laws of digestion and resorption, chemical equilibria and immunization. Similar to his "Immunochemistry" the book contains many tables enumerating the results of observation and calculation as determined by various investigators as well as the author. The index is quite complete. The subject is one about which we know too little, for we have been too well satisfied with the qualitative side of things.

W. T. C.

The Aftermath of Battle. By Edward D. Toland. Published by the Macmillan Company, New York. 1916.

The writer has been next to the trenches, with the Harjes Ambulance Corps, in France. He has served, at different times, as orderly, nurse,

chauffeur and commissariat. He brings the reader right into the action: his descriptions are most vivid: his play on the emotions unusual. To commence the reading of the book means to finish it at a sitting. First, the presence of a few errors in punctuation and the misplacing of a word here and there must be criticized. One wonders at the significance of "septic pus," "stovane serum," "upper row of canine and molar teeth," "oral aphasia," etc., but Mr. Toland has been related to things medical only since his going to the front; and the service he has given in his various positions and the story he tells more than compensate for his not as yet having mastered the medical vernacular. The great lesson of the book to us is its appeal for preparation for war in the medical sense. Early in the war the writer found no scarcity of surgeons but a glaring lack of medical men and nurses who might serve in administrative capacities—so a want of all-important discipline, systematic assignment of duties, etc. J. H. C.

A Treatise on the Principles and Practice of Medicine. By Arthur R. Edwards, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine and Dean of the Northwestern University Medical School, Chicago. New (third) edition, thoroughly revised. Octavo, 1022 pages, with 80 engravings and 23 full-page plates in colors and monochrome. Cloth, \$6.00, net. Lea & Febiger, Philadelphia and New York, 1916.

Professor Edwards in this third edition of his valuable text-book on medicine has, as usual, presented the student with a good up-to-date manual. New chapters are added on ictero-anemia, the ductless glands, X-ray findings, erythremia, sepsis (infection, toxemia, bacteremias), high calory-feeding in typhoid with a table of food values, sporotrichosis, blastomycosis, trichinosis, hook-worm disease, pellagra, gas poisoning, the arrhythmias and other cardiac neuroses, tropical splenomegaly and various other tropical affections. New material on the following is added: meningitis serum of Flexner and Jobling, Strong's work on anebic dysentery, Brill's disease, anaphylaxis, paratyphoid, blood cultures in typhoid and other bacteremias, the "carriers of infection," the recent epidemics of meningitis and poliomyelitis, vaccines, serotherapy, the spirachete as the cause of syphilis and the recent status of tuberculin in its diagnostic and therapeutic application, the diagnostics and therapeutics of cardiac failure, hypertension, diabetes, gastric and duodenal ulcer, constipation, drug additions, neuralgias, etc. Among the good points to be noted is the elaborate system of cross-references, eliminating much needless repetition, and the well-selected notes on treatment.

Comparison with the second edition reveals, however, a rather extreme attempt at condensation of the subject-matter and the introduction of a number of "tables of differential diagnosis." It is to be regarded as unfavorable to the value of the book that this effort for conciseness and brevity has brought it dangerously near to the class of quiz-compends, than which there is no type of text-book more undesirable.

It is to be hoped for that in the next edition of this deservedly popular treatise on medicine the author will amend this rather parsimonious style by replacing the two hundred pages of text by which this volume has been reduced. G. H. T.

Nitro by Hypo. By Edwin P. Haworth. Willows Magazine Company, Kansas City, Publishers. 1915.

An earnest appeal to the medical man for introspection and analysis. The chapters on Medical

Progress, Personality in Medicine, and Medical Success are the best. He urges the doctor to read, study, investigate, attend clinics and observe. While recognizing that each type of personality attracts a certain type of practice he shows that some of the more important things to strive for are adjustability, policy and diplomacy. He thinks that one of the big elements of success in medicine consists in not doing anything of minor importance that you can hire another to do. J. H. C.

A Text-Book of Pathology. By Alfred Stengel, M. D., Professor of Medicine, University of Pennsylvania, and Herbert Fox, M. D., Director of the Pepper Laboratory of Clinical Medicine, University of Pennsylvania. Sixth edition, reset. Octavo of 1045 pages, with 468 text-illustrations, many in colors, and fifteen colored plates. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

This book is too well known and valued to necessitate extended favorable comment. The publication of a sixth edition attests to the nature of the reception accorded to the previous ones, which were edited by Dr. Stengel alone. A number of new chapters and subjects have been incorporated, including Teratology, Diseases due to Filterable Viruses, Methods of Transmission of Communicable Diseases and the Pathology of the Eye, Ear and Skin. The subjects of typhus fever, ozena, syphilis, anemia (hemolytic ictero-anemia), coccidioid granuloma and entamebae have been brought up to date from the previous edition of 1906. Almost 100 illustrations have been added to a profusely illustrated edition and some of them are in colors. The chapter on Technic has been omitted and "Diseases of the Nervous System" has been shortened to a proportionate length. This revised edition merits the welcome of the student as well as the graduate of medicine. W. T. C.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

The Requirements of the Council on Pharmacy and Chemistry.—New and Nonofficial Remedies contains the rules which govern the Council on the admission of remedies to this book. These rules merely require that the composition of a remedy be nonsecret, that its uniformity be safeguarded, that no false claims be made regarding its therapeutic properties and that its use shall be at least based on a probability of therapeutic merit. A simple way of determining if a certain preparation complies with the Council's rules, is to see if it is described in New and Nonofficial Remedies (Jour. A. M. A., March 18, 1916, p. 913).

Radium Bromide, W. L. Cummings Chemical Company.—It complies with the standards of N.

N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

Radium Carbonate, W. L. Cummings Chemical Company.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

Radium Chloride, W. L. Cummings Chemical Company.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

Radium Sulphate, W. L. Cummings Chemical Company.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

Borcherdt's Dri-Malt Soup Extract.—A powder obtained by adding potassium carbonate 1.1 gm. to each 100 gm. of Borcherdt's Malt Extract and evaporating. Borcherdt Malt Extract Co., Chicago.

Borcherdt's Dri-Malt Soup Extract with Wheat Flour.—A powder obtained by evaporating 100 gm. Borcherdt's Malt Soup Extract and 50 gm. wheat flour made into a paste. Borcherdt's Malt Extract Co., Chicago.

Borcherdt's Finished Malt Soup Powder.—A powder obtained by evaporating 100 gm. Borcherdt's Malt Soup Extract, 50 gm. wheat flour, made into a paste and 330 gm. milk. Borcherdt's Malt Extract Co., Chicago (Jour. A. M. A., March 11, 1916, p. 815).

Saubermann Radium Emanation Activator.—An apparatus for the production of radioactive drinking water by the action of radium sulphate. Each apparatus is designed to furnish about 500 cc. radioactive water per day. The exact daily capacity and efficiency are guaranteed and are stated for each apparatus. The following strength generators are offered:

Saubermann Radium Emanation Activator, 5,000 Mache Units.—An apparatus which imparts about 1.8 microcurie (5,000 Mache Units) to about 500 cc. water daily.

Saubermann Radium Emanation Activator, 10,000 Mache Units.—An apparatus which imparts about 3.6 microcurie (10,000 Mache Units) to about 500 cc. water daily.

Saubermann Radium Emanation Activator, 20,000 Mache Units.—An apparatus which imparts about 7.2 microcurie (50,000 Mache Units) to about 500 cc. water daily.

Saubermann Radium Emanation Activator, 50,000 Mache Units.—An apparatus which imparts about 18 microcurie (50,000 Mache Units) to about 500 cc. water daily. Radium Limited, U. S. A., New York (Jour. A. M. A., March 18, 1916, p. 893).

ITEMS OF INTEREST.

Alarming Symptoms Caused by Diarsenol.—Diarsenol is made by the Synthetic Drug Company of Toronto, Canada. It is stated to be chemically identical with salvarsan. A. H. Cook, Hot Springs, Ark., reports that he has administered fourteen intravenous injections of Diarsenol. Eleven consecutive doses were administered without untoward effect or phenomena differing from those attending the intravenous administration of salvarsan. The three subsequent doses produced alarming symptoms which Dr. Cook never observed from the use of salvarsan or neosalvarsan (Jour. A. M. A., March 18, 1916, p. 865).

Clinical Report on Arsenobenzol.—"Arsenobenzol" is being made by the Dermatological Research Laboratories of the Philadelphia Polyclinic. It is stated to be chemically identical with salvarsan. O. S. Ormsby and J. H. Mitchell report a series of 184 injections given to seventy-five pa-

tients suffering with syphilis in its various stages. They report that the action of this drug has been uniform, its toxicity low, and its therapeutic results excellent (Jour. A. M. A., March 18, 1916, p. 867).

Hexamethylenamin and Uric Acid.—If further evidence were necessary to show the futility of administering formaldehyde derivatives like hexamethylenamin as uric acid solvents, it could be found in the observations recorded by Haskins under the auspices of the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry. While the administration of excessive doses may produce slight solvent action, Haskins points out that the required dose of hexamethylenamin is too large and an equal or better effect can be produced more readily by administration of alkaline diuretics or sodium bicarbonate in reasonable quantities (Jour. A. M. A., March 25, 1916, p. 962).

Emetic Action of Drugs.—The investigation of R. A. Hatcher and C. Eggleston show that the nauseant and emetic action of many drugs is not due to their effects on the stomach, but to a central action on the "vomiting center." Practically all alkaloids and alkaloidal drugs which have emetic properties, including morphin and preparations containing it, emetin, cephaelin, quinin, nicotin, lobelin, pilocarpin, aconite and veratrin, ergot and apomorphin, which produce nausea or vomiting as their chief or side actions, do so by direct effect on the vomiting center. Sodium salicylate, picROTOXIN and digitalis also produce vomiting through central action. These investigations show the futility of the many devices which have been employed in attempts to avoid the nausea or emesis produced by many drugs as an undesired side-effect (Jour. A. M. A., March 11, 1916, p. 817).

Larkspur for Pediculosis Capitis.—Various formulas for tincture of larkspur for use against pediculosis capitis have been published, but larkspur is poisonous and harm may result where there are abrasions of the skin. Many prefer kerosene. It is applied under a suitable cap. After twenty-four hours the hair is combed to remove nits and then washed (Jour. A. M. A., March 18, 1916, p. 913).

Venarsen, Venomer and Venodine.—The A. M. A. Chemical Laboratory found Venarsen, which is recommended by the manufacturers, the Intravenous Products Company, for the treatment of syphilis, tuberculosis, pellegra and other diseases, to be "a simple solution containing approximately 9 grains of sodium cacodylate, 1/40 grain of mercury 'biodide' and 3/4 grain of sodium iodid to each full dose." Sodium cacodylate is inferior to salvarsan or neosalvarsan in the treatment of syphilis. The Council on Pharmacy and Chemistry held the claims made for Venarsen unwarranted and its intravenous injection uncalled for. Venomer, which is also offered as an antisiphilitic remedy, appears to be a variation on Venarsen, containing considerably less sodium cacodylate and considerably more mercury and iodids. It prompts the comment that a careful physician would not give arsenic and mercury in fixed proportions. Venodine was rejected by the Council on Pharmacy and Chemistry because the claims made for it were found unwarranted and its composition unscientific. The indiscriminate use of intravenous products is objectionable for many reasons:—It incurs an unnecessary danger, and it puts the physician to needless trouble and the patient to unnecessary expense (Jour. A. M. A., March 25, 1916, p. 978).

Endorse the Council on Pharmacy and Chemistry.—The following resolution was presented at the San Francisco meeting of the A. M. A. and signed by all the members of the house of delegates in attendance: "Resolved, We, Members of the House of Delegates of the American Medical Association, believe that every effort must be made to do away with the evils which result from the exploitation of the sick for the sake of gain. Earnestly believ-

ing that the continued toleration of secret, semi-secret, unscientific or untruthfully advertised proprietary medicines is an evil that is inimical to medical progress and to the best interest of the public, we declare ourselves in sympathy with, endorse and by our best efforts will further the work which has been and is being done by the Council on Pharmacy and Chemistry of the American Medical Association in the attempt to eliminate this evil" (Jour. A. M. A., March 18, 1916, p. 910).

THE FIRST MEETING OF THE PACIFIC DIVISION OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

During the past year a general association of scientific interests on the Pacific Coast supported by affiliations with a number of Pacific Coast scientific societies has been effected under the auspices of the Pacific Division of the American Association for the Advancement of Science.

The first meeting of this Division has been appointed for San Diego between the dates, August 9 and 12, 1916. This will be an event of especial significance to western scientists because it will be the first of a series of similar meetings which it is planned to hold annually in the various educational centers of the Coast, and because it occurs in a region which presents many interesting features of geology, archaeology, botany and zoology.

The organization of a Pacific Division of the American Association is moreover a distinct recognition of the attainments of western scientists and research institutions. The American Association is an organization of nearly seventy years' standing and is the largest general scientific organization in America. Its purposes are to encourage and assist work in any field of science, and also to make the achievements of science more readily accessible and intelligible to people in general.

The officers and members of the Executive Committee in whose hands are the general plans for the San Diego meeting are representative of several branches of science.

President, W. W. Campbell, Lick Observatory, Mount Hamilton, California.

Vice-President, D. T. MacDougal, Desert Botanical Laboratory, Tucson, Arizona.

Secretary-Treasurer, Albert L. Barrows, University of California, Berkeley.

Executive Committee—D. T. MacDougal, chairman, Desert Botanical Laboratory, Tucson, Arizona; W. W. Campbell, ex-officio, Lick Observatory, Mount Hamilton, California; Edward C. Franklin, Stanford University, California; Theodore C. Frye, University of Washington, Seattle; C. E. Grunsky, San Francisco, California; George E. Hale, Mount Wilson Solar Observatory, Pasadena, California; Vernon L. Kellogg, Stanford University, California; A. C. Lawson, University of California, Berkeley; E. P. Lewis, University of California, Berkeley.

Among the important addresses to be given at the San Diego meeting of the Pacific Division of the American Association will be that of the president of division, Dr. W. W. Campbell, Director of the Lick Observatory of the University of California, Mount Hamilton, entitled, "What We Know About Comets." Two other general addresses will be given by Dr. F. F. Wesbrook, President of the University of British Columbia, and by Dr. Barton W. Evermann, Director of the Museum of the California Academy of Science.

San Diego as a meeting place will be especially attractive to scientists this summer because of the exhibits of scientific materials at the Panama-California International Exposition, including an unusually complete series illustrating the history of man. Added interest is given to this period by the Assembly in Science at the Scripps Institution for Biological Research at La Jolla near San Diego.

extending from June 26 to August 5 in the nature of summer school at this seaside laboratory. Two other marine laboratories in Southern California will be open throughout the summer, that of the University of Southern California at Venice and that of Pomona College at Laguna Beach. At Pacific Grove the Stanford Marine Laboratory will be open for a summer session of six weeks beginning May 22.

Southern California is of especial interest because of the natural features of geology, zoology, botany, and of the archaeology of the Southwest, which are peculiar to the region. Many of these are readily accessible from San Diego, and excursions to them will form a prominent part of the San Diego meeting of the Pacific Division of the American Association for the Advancement of Science in August.

A PLEA FOR CERTAIN MEDICAL OFFICERS OF THE U. S. ARMY.

The Act of Congress approved April 23, 1908, provides for a Medical Reserve Corps of the United States Army, and for the purpose of securing a reserve corps of medical officers available for military service, the President of the United States is authorized to issue commissions as First Lieutenants therein to such graduates of reputable schools of medicine, citizens of the United States, as shall from time to time, upon examination to be prescribed by the Secretary of War, be found physically, mentally, and morally qualified to hold such commissions, the persons so commissioned to constitute and be known as the Medical Reserve Corps.

The commissions so given bear certain exceptions to the holders thereof, as compared to the rights and privileges conferred upon First Lieutenants of the medical corps, and First Lieutenants of the other branches of the service, namely:

1. No promotion.
2. To rank next below all other First Lieutenants in the U. S. Army.
3. The President is authorized to honorably discharge from the Medical Reserve Corps any officer thereof whose services are no longer required.
4. Not entitled to retirement or retirement pay.

Congress has by the Act approved March 3, 1911, granted to the Dental Surgeon, the right of retirement on account of age or disability, as in the case of other officers.

The functions of the medical corps and the medical reserve corps are one and the same, the many varied and complex duties the officers in each corps are required to perform are alike. In spite of the status of the officer in the medical reserve corps, he is a man who has the same spirit and pride to uphold the honor and dignity of the profession, to render to his country, service of a high standard of excellence, and to maintain social consideration, dedicating himself soul and body, with zeal and industry to the performance of his duties, with the faithfulness of his colleagues in the medical corps.

The very terms of the law under which the medical department of the Army was reorganized in 1908, does the greatest injustice to the officers of the medical reserve corps; they are the only commissioned officers in the Army denied the privilege of retirement. The law relative to the dental surgeon is a good one, a step in advance, he does not get more than he deserves, but comparing service, it is believed a long stride should have been made by Congress, with the same effort, and equal provision made for the officer in the medical reserve corps, as he surely is entitled to and should receive the same privileges of retirement for disability or age as the dental surgeon and other officers of the Army.

The duties of the M. R. C. officer and the char-

acter of service are well explained in an article published lately in the Journal of the American Medical Association, entitled "What the Civilian Doctor Called to Active Service With the Army Should Know." He should know all that is set forth in the article, and he should know also what the Government proposes to do (or not do) for him in return for his services.

If the reorganization of the medical department of the Army does not include legislation changing the status of the officer in the medical reserve corps, he should know that under the present law, that when the "Civilian" Doctor is called into active service if he is wounded in battle or incapacitated by disease and rendered physically unfit for further service and unable to resume his practice to earn a living in civil life, the unfortunate result is that he is relieved from the service of the United States, which he so patriotically accepted, and sent to his home (if he has one) with the only hope of a meager pension if he can get it.

The commission that the officer in the M. R. C. holds is practically a contract, there is very little difference in the status of that officer and a contract surgeon, the latter has the same rank, First Lieutenant, same privileges of quarters, fuel, light, transportation of personal and household effects, etc. No advancement, promotion or retirement for either, and their services can be terminated at any time when no longer desired.

The commission such as given the medical reserve corps officer, does not make him a part of the U. S. Army, or of the regular medical corps, no more than it would the Contract Surgeon, neither is regarded as belonging to the medical corps; they are both only WITH the Army, and not a PART of it.

It is believed that the officers of the medical reserve corps when upon the Active List, should be accorded the same rights and privileges as is now authorized by law for the Dental Surgeons, Chaplains, Veterinarians and Pay Clerks in the Army. Officers on the inactive list of the M. R. C. should use their best efforts to secure the enactment of such legislation commensurate with the dignity of their profession, and that will place them on an equal footing with the other officers of the Army.

PRINCIPAL CAUSES OF DEATH.

Census Bureau's Summary of the Statistics for the Registration Area in 1914.

Washington, D. C., January 16, 1916.

According to a preliminary announcement with reference to mortality in 1914, issued by Director Sam. L. Rogers, of the Bureau of the Census, Department of Commerce, and compiled by Mr. Richard C. Lappin, chief statistician for vital statistics, more than 30 per cent. of the 898,059 deaths reported for that year in the "registration area," which contained about two-thirds of the population of the entire United States, were due to three causes—heart diseases, tuberculosis, and pneumonia—and more than 60 per cent. to eleven causes—the three just named, together with Bright's disease and nephritis, cancer, diarrhea and enteritis, apoplexy, arterial diseases, diphtheria, diabetes, and typhoid fever.

The deaths from heart diseases (organic diseases of the heart and endocarditis) in the registration area in 1914 numbered 99,534, or 150.8 per 100,000 population. The death or mortality rate from this cause shows a marked increase as compared with 1900, when it was only 123.1 per 100,000.

Tuberculosis in its various forms claimed 96,903 victims in 1914, of which number 84,366 died from

tuberculosis of the lungs (including acute miliary tuberculosis). As a result of a more general understanding of the laws of health, the importance of fresh air, etc., due in part, no doubt, to the efforts of the various societies for the prevention of tuberculosis, there has been a most marked and gratifying decrease during recent years in the mortality from this scourge of civilization. In only a decade—from 1904 to 1914—the death rate from tuberculosis in all its forms fell from 200.7 to 146.8 per 100,000, the decline being continuous from year to year. This is a drop of more than 25 per cent. Prior to 1904 the rate had fluctuated, starting at 201.9 in 1900. Even yet, however, tuberculosis has the gruesome distinction of causing more deaths annually than any other form of bodily illness except heart diseases, and over 40 per cent. more than all external causes—accidents, homicides, and suicides combined.

Pneumonia (including bronchopneumonia), was responsible for 83,804 deaths in the registration area in 1914, or 127 per 100,000—the lowest rate on record. The mortality rate from this disease, like that from tuberculosis, has shown a marked decline since 1900, when it was 180.5 per 100,000. Its fluctuations from year to year, however, have been pronounced, whereas the decline in the rate for tuberculosis has been nearly continuous.

The only remaining death rate higher than 100 per 100,000 in 1914 was that for Bright's disease and acute nephritis, 102.4. The total number of deaths due to these maladies in 1914 was 67,545, more than nine-tenths of which were caused by Bright's disease and the remainder by acute nephritis. The mortality from these two causes increased from 89 per 100,000 in 1900 to 103.4 in 1905, since which year it has fluctuated somewhat.

Next in order of deadliness come cancer and other malignant tumors, which filled 52,420 graves in 1914. Of these deaths, 19,889, or almost 38 per cent., resulted from cancers of the stomach and liver. The death rate from cancer has risen from 63 per 100,000 in 1900 to 79.4 in 1914. The increase has been almost continuous, there having been but two years—1906 and 1911—which showed a decline as compared with the years immediately preceding. It is possible that at least a part of this indicated increase is due to more accurate diagnoses and greater care on the part of physicians in making reports to registration officials.

Diarrhea and enteritis caused 52,407 deaths in 1914, or 79.4 per 100,000. This rate shows a marked falling off as compared with the rate for the preceding year, 90.2, and a very pronounced decline as compared with that for 1900, which was 133.2. Nearly five-sixths of the total number of deaths charged to these causes in 1914 were of infants under 2 years of age.

Apoplexy was the cause of 51,272 deaths, or 77.7 per 100,000. The rate from this malady has increased gradually, with occasional slight declines, since 1900, when it stood at 67.5.

Arterial diseases of various kinds—atheroma, aneurism, etc.—caused 15,044 deaths, or 22.8 per 100,000, in the registration area.

No epidemic disease produced a death rate as high as 18 per 100,000 in 1914. The fatal cases of diphtheria and croup—which are classed together in the statistics, but practically all of which are of diphtheria—numbered 11,786, or 17.9 per 100,000, in that year, the rate having fallen from 43.3 in 1900. This decline of nearly 59 per cent. is relatively greater than that shown by any other important cause of death. The rate has not fallen continuously, but has fluctuated somewhat from year to year.

Diabetes was the cause of 10,666 deaths, or 16.2 per 100,000. The rate from this disease has risen almost continuously from year to year since 1900, when it was 9.7 per 100,000.

The mortality rate from typhoid fever has shown

a most gratifying decline since 1900, having decreased from 35.9 per 100,000 in that year to 15.4 in 1914, or by 57 per cent. This decline has been almost as great, relatively, as that for diphtheria, and has been greater than that for any other principal cause of death. The total number of deaths due to typhoid fever in 1914 was 10,185. The marked decrease in the mortality from this disease gives emphatic testimony to the effectiveness of present-day methods, not only of cure but of prevention. The efficacy of improved water-supply and sewage systems, of the campaign against the fly, and of other sanitary precautions, is strikingly shown by the reduction of the typhoid mortality rate to the extent of more than five-ninths in 14 years.

Whooping Cough, Measles, and Scarlet Fever.

The principal epidemic maladies of childhood—whopping cough, measles, and scarlet fever—were together responsible for no fewer than 15,617 deaths of both adults and children, or 23.7 per 100,000, in the registration area in 1914, the rates for the three diseases separately being 10.3, 6.8, and 6.6, respectively. In 1913 measles caused a greater mortality than either of the other diseases, but in 1914 whooping cough had first place. In every year since and including 1910, as well as in several preceding years, measles has caused a greater number of deaths than the much more dreaded scarlet fever. The mortality rates for all three of these diseases fluctuate greatly from year to year. The rates for measles and scarlet fever in 1914 were the lowest in 15 years, while that for whooping cough was considerably above the lowest recorded rate for this disease, 6.5 in 1904, although far below the highest, 15.8 in 1903.

Railway and Street-Car Accidents.

Deaths due to railway accidents and injuries totaled 7,062, or 10.7 per 100,000. This number includes fatalities resulting from collisions between railway trains and vehicles at grade crossings. The death rate from railway accidents and injuries is the lowest on record and shows a most marked and gratifying decline as compared with the rate for 1913, which was 13 per 100,000, and a still more pronounced drop from the average for the five-year period 1906-1910, which was 15 per 100,000.

Deaths resulting from street-car accidents and injuries numbered 1,673, or 2.5 per 100,000. This rate, like that for railway fatalities, is the lowest on record and shows a material falling off as compared with 1913, when it was 3.2, and as compared with the average for the five-year period 1906-1910, which was 3.7.

Suicides.

The number of suicides reported in 1914 was 10,933, or 16.6 per 100,000 population. Of this number, 3,286 accomplished self-destruction by the use of firearms, 3,000 by poison, 1,552 by hanging or strangulation, 1,419 by asphyxia, 658 by the use of knives or other cutting or piercing instruments, 619 by drowning, 225 by jumping from high places, 89 by crushing, and 85 by other methods.

THE APRIL MEETING OF THE STATE BOARD OF HEALTH.

The regular monthly meeting of the State Board of Health was held April 1st, in Sacramento. There were present Dr. George E. Ebright, President; Dr. F. F. Gundrum, Vice-President; Dr. Edward F. Glaser, Dr. Robert A. Peers, Dr. Adelaide Brown and Dr. Wilbur A. Sawyer, Secretary.

The State Board of Health decided to continue to furnish lectures on public health and preventive medicine which had been requested by the University of California Medical School.

The Secretary was appointed the delegate of the State Board of Health to the Fourteenth Annual

Conference of State and Territorial Health Authorities with the United States Public Health Service to be held in Washington, May 13th and 15th, 1916.

The Board decided to call a conference of the various departments of the State government and other persons interested in the enforcement of the new milk law which goes into effect October 1st. The President decided to call the conference for Thursday, April 27th, in San Francisco.

The following resolution was passed, putting on official record various previous actions of the Secretaries of the State Board of Health relative to the reporting of communicable disease by health officers. The resolution did not in any way change the existing regulations.

"Resolved, That every local health officer shall report each week to the State Board of Health on the blanks furnished by the Board, the presence of communicable diseases on the published list of diseases whose report is required by law, together with such data as are indicated by the report blanks furnished; and where the health officer has no knowledge of the presence of such diseases, he shall report their absence in the same manner."

A report was received relative to the delinquency of certain health officers in the matter of furnishing the required weekly report of communicable disease. In connection with this matter the following resolution was passed:

"Whereas, Seven out of the two hundred and eighty-five health officers in California have failed to furnish reports of communicable diseases to the State Board of Health, as is required by law, during the first ten weeks of 1916, in spite of repeated communications calling their attention to the law; and

"Whereas, It is essential to successful public health administration in California that prompt reports of communicable diseases be received by the State Board of Health at weekly intervals from all health officers in the State; therefore be it

"Resolved, That the Secretary be instructed to take further steps to bring about the reporting of diseases by delinquent health officers, that he notify them of the requirements of the law, and make recommendations to the Board at its next regular meeting regarding any need for legal action to compel the performance of the duties of their office; be it further

"Resolved, That the names of any remaining delinquent health officers be published in connection with the minutes of the next meeting."

Mr. Stanley B. Freeborn, Instructor in Entomology at the University of California, was appointed an Inspector of the State Board of Health, without salary from the Board, for services in connection with the malaria and mosquito survey, to hold office from May 1st to September 1st, 1916. Mr. Freeborn will co-operate with Professor W. B. Herms in the proposed joint survey by the State Board of Health and the University of California.

A motion was carried to the effect that the Secretary should be instructed to inform the City of Alameda that inasmuch as the population of the city has exceeded 25,000 that the State Board of Health will discontinue the routine service of the State Hygienic Laboratory on January 1, 1917; and that the City of Alameda be urged to provide for a city bacteriological laboratory before that time.

A report was received from Dr. J. C. Geiger, Assistant Director of the State Hygienic Laboratory, that ophthalmia neonatorum outfits, together with literature regarding legislation on the prevention of this disease, have been distributed to all physicians of California, and that an additional stock has been furnished to the larger health departments and to the 200 depositories of the State Hygienic Laboratories.

A communication was presented from Dr. W. C.

Hassler, health officer of San Francisco, relative to the possible discontinuance, by the United States Public Health Service, of plague eradication measures in San Francisco. The following resolution was passed by the Board:

"Resolved, That the Secretary be instructed to communicate with the Surgeon-General of the United States Public Health Service, requesting the continuance of plague eradication measures in San Francisco and other parts of California; and be it further

"Resolved, That should the United States Public Health Service not see fit to continue its work in San Francisco, it would then devolve upon the local authorities to continue the activities initiated by the United States Public Health Service as a local sanitary measure."

The action of the Secretary in modifying the State quarantine for rabies in Lassen County was confirmed by a vote of the Board. The modification is as follows:

"That owners be allowed to take their dogs off their private premises, provided that such dogs are properly muzzled and held in restraint by leash. Also, that dogs be allowed to run at large during the day upon the private premises of the owner, provided they are at all times under the control of an adult and properly muzzled. At night all dogs to be held under proper control by means of leash or in enclosed cage or paddock."

By formal resolution the Board confirmed the action of the Secretary in endorsing the agreement between the State of California and the State of Nevada relative to the transfer of sheep dogs between Modoc and Lassen counties in California and Washoe County in Nevada.

Relative to the trial of a man charged with exhibiting a deadly weapon in a threatening manner toward an Inspector of the State Board of Health in connection with the rabies campaign in Modoc County, the following resolution was passed and ordered sent to District Attorney Robnett of Modoc County:

"Resolved, That the Secretary be instructed to communicate with the District Attorney, commending his activity and expressing the interest of the Board in the case at issue."

A temporary permit was granted to the City of Calistoga to continue to deposit and discharge the effluent from a septic tank on the four-acre tract east of Napa Creek and also into the creek during the winter months.

A temporary permit was likewise granted to the City of Sonoma to continue to dispose of its sewage by treatment in a septic tank followed by disposal on a sewer farm.

A temporary permit was granted to the City of San Luis Obispo to continue the use of the public water supply pending the carrying out of the recommendations for increased safety contained in the report of Mr. C. G. Gillespie, Director of the Bureau of Sanitary Engineering.

On the basis of a report and the recommendations of the Director of the Bureau of Tuberculosis, the tuberculosis ward of the Fresno County Hospital was approved as eligible for the tuberculosis subsidy.

Regulations for the Prevention and Control of Tuberculosis were read, amended, and adopted.

The following hospitals having been inspected by the Director of the Bureau of Registration of Nurses and found to meet the requirements of the Board were accredited for one year from date, April 1, 1916: Agnew Sanitarium, San Diego; Alameda County Hospital, San Leandro; East Bay Sanitarium, Oakland; Glendale Sanitarium, Glendale; Hahnemann Hospital, San Francisco; Loma Linda Sanitarium, Loma Linda; O'Connor Sanitarium, San Jose; Paradise Valley Sanitarium, National City; Pomona Valley Sanitarium, Pomona.

Certificates as registered nurse were granted to 105 applicants.

A plan for a standard curriculum for nurses' training schools was presented and a committee consisting of Dr. F. F. Gundrum, Dr. Edward F. Glaser, and Dr. Adelaide Brown was appointed to co-operate with the Bureau of Registration of Nurses in considering the manuscript and making any needed amendments.

A resolution was passed approving, in accordance with the recommendations of the Director of the Bureau of Registration of Nurses, the requirements of the Board for accredited training schools for nurses, after minor amendments made at the meeting.

The Board passed a resolution calling the attention of the State Board of Control to the need of careful physical examination of the orphan wards of the State and expressing the opinion of the Board that special provision should be made for children suffering from tuberculosis and other diseases.

Seventy-one cases of alleged violations of the Food and Drugs Act had been set for hearing on this date. Many of the alleged violators were present or were represented by attorneys. After the hearings the cases were judged on their merits and the most of them were referred to the local district attorneys for prosecution.

RAILROAD "DAYS."

In other lines of business or employment and under federal and state law there is but one standard of measurement, and that is "time," and an 8-hour day means 8 hours work, and a "day" means a day.

It is very different on a railroad. In train and engine service there are two standards of measurement—time and miles—and whichever will produce the more pay is the one used by employees to determine their wages. In freight service, on mountain districts on runs of over 100 miles, 10 hours or less, or 100 miles or less, constitutes a day. In freight service through practically level country 8 hours or less, or 100 miles or less, constitutes a day. A "day," therefore, may mean that an engineer worked 10 hours, or 8 hours, or 5 hours, or 3 hours, or no hours at all; or it may mean that he ran 100 miles, 50 miles, 25 miles or no miles at all—as an engineer on an assigned run who, because of slack business, bad weather or like conditions, fails to make full time, must be paid full time regardless of the fact that on some of these "days" he performed no work.

For example, if an engineer in valley freight service was 8 hours on the road but in that time ran only 50 miles he would be paid for a "day," as 8 hours or less constitutes a "day." If on the other hand he ran 100 miles in 3 hours he would be paid for a "day" although he only worked 3 hours, as 100 miles or less also constitutes a "day." If he ran 200 miles in 6 hours he would be paid for 2 "days" although he only worked 6 hours.

In main line passenger service a "day" means 5 hours or less, or 100 miles or less. If an engineer ran 300 miles in 9 hours he would be paid for 3 "days" although he only worked 9 hours, as 100 miles or less constitutes a day. If for any reason movement of his train was delayed and it took him 10 hours to run 100 miles he would be paid for 2 "days" as 5 hours or less, also constitutes a day, and whichever basis will yield the more pay, is the one used in determining the amount of pay.

IN ERRATA.

In the 27th edition of the Official Register and Directory of Physicians and Surgeons, in the body of the book, the name of Dr. Samuel W. Means of 600 Stockton Street, San Francisco, was omitted. Dr. Samuel W. Means is a duly qualified and licensed physician of the State of California, having graduated from the Medico-Chirurgical College of Pa., '02 (C) '03, and is a member of the San Francisco County Medical Society.

PASO ROBLES.

After extensive alterations and the installation of new equipment, the hotel at Paso Robles Hot Springs will be re-opened under new management on February 15th, thus making again available to the public one of California's famous spas. Paso Robles Hot Springs is midway between San Francisco and Los Angeles on the Southern Pacific Coast line and its waters are said to be possessed of healing and restorative powers equal to those of Carlsbad, Baden-Baden and other foreign spas to which Americans have journeyed unmindful of what their own country possessed.

The hotel was built because the springs were there. The reputation of the waters started with the Indians long before the patient padres of a Catholic conquest of the "unfaithful parts" of California. Padre Lasuen—when his mission at San Miguel, a short distance from the springs, was founded—wrote to the Court of Spain about the virtues of the waters and years ago they were known to European physicians.

The environment at the spa this year is one as well for rest and recreation as for the cure of disease or the quieting of shattered nerves. The big bathhouse is connected with the hotel by an arcade running from the solarium of the hotel. It is equipped with the latest appliances and discoveries of the application of water and mud. There is a plunge, medical offices and directory and on the exterior tennis courts, croquet-grounds, and a club house with tenpins, billiards and broad lanais for lounging. The waters are of various kinds—the moor muds or peats, through which flow a constant supply of sulphur waters; sulphurous and alkaline pools, soda, iron or chalybeate, sulphur-and-lithia, varying in temperature from 60° to 122° Fahrenheit.

PNEUMONIA.

Ten per cent. of the deaths in the United States result from pneumonia. It is estimated that during the past thirty days this rate has been doubled in some sections. Tuberculosis and heart disease, each causing one-ninth of all fatalities, are the only diseases which outrank pneumonia among the legion of the men of death, but in certain cities pneumonia is steadily increasing and even has surpassed the mortality from tuberculosis. Seventy per cent. of all cases occur between December and May. It is distinctly a cold weather infection, seemingly brought by wintry blasts, but especially prevalent during the winter season only because its

victims are rendered more susceptible at that time by exposure, debilitating influences and the presence of predisposing infections.

Pneumonia principally affects those at the extremes of life, but no age is exempt. It is invariably a germ disease. The predisposing and exciting organisms are so numerous that it would be futile to attempt their enumeration. Many of them are constantly present in the mouths and throats of healthy persons and it is only through the aid which we unwittingly extend to them that they are transformed from harmless organisms to one of man's most powerful enemies.

The presence of other diseases is the great predisposing cause of pneumonia. They prepare the soil for invasion. Holding first rank in this category is influenza, the increased incidence of pneumonia at this time being largely due to the present epidemic of la grippe. Individuals suffering from this infection are peculiarly susceptible to respiratory complications and should properly observe every hygienic rule. Inflammation of the upper air passages, pharyngitis, bronchitis, and tonsillitis, often predispose to the development of the disease, particularly among the aged and infirm. The acute contagious diseases of childhood, more especially measles and whooping cough, frequently prepare the way for pneumonia. Anyone who through neglect or carelessness permits the spread of these infections is therefore open to the severest condemnation. Exhausting disease of whatever nature, is often sufficient to so reduce our resistance that we are unable to cope with organisms which should be easily overcome, and hence predisposes to the infection.

Debility, either temporary or chronic, developing from any cause, increases susceptibility. Because of this the disease most often attacks those at the extremes of life. Among debilitating influences must be mentioned cold, exposure to penetrating winds, and the chilling of body surfaces as a result of wetting. The combination of lack of food and fatigue proves particularly disastrous during the winter season and is a condition to be avoided whenever possible. Bad housing, mental or physical harassment, and overwork are alike the advance agents of the infection. Overcrowding, in street cars, theatres, and other public places, is unquestionably in part responsible for the spread of pneumonia in cities, as far greater opportunity is thus offered for the dissemination of the predisposing diseases through indiscriminate coughing and other means of droplet infection, as well as the directly injurious effects which inevitably result from exposure to such environment. The overheating of rooms is also seemingly harmful. Promiscuous expectoration may be, and probably is, a factor in infection and consequently should be avoided by every citizen. A remaining most important agent should be mentioned—alcohol. It is in truth the handmaiden of pneumonia, and there is none more certain or more sure of success, especially if liberally and continuously used.

While the foregoing facts constitute in part our knowledge of the reasons for the widespread dissemination of an infection which carries with it a mortality of from ten to thirty per cent., it should be remembered that our scientific data are not yet complete. There are problems connected with immunity, predisposition, and the occurrence of epidemics which are yet to be solved. It is known that pneumonia frequently attacks those who are perfectly well, and who apparently have observed every hygienic rule. Whether this is due to the increased virulence of the organism or to other causes is unexplained. It is, however, recognized that avoidance of the factors so briefly enumerated will in large part diminish individual susceptibility and therefore the incidence of the disease.

NEW MEMBERS.

MacCloskey, Richard C.—Los Angeles.
 Misch, Herman B.—Los Angeles.
 Jones, Cora White Carpenter—Los Angeles.
 Oettinger, Bernard—Long Beach.
 Walker, Fred'k. E.—Long Beach.
 Close, Katherine M.—Los Angeles.
 Frees, Benj. M.—Los Angeles.
 Hembree, A. T.—Redondo Beach.
 Miller, Benj. F.—Whittier.
 Cook, Elmira F.—Los Angeles.
 Hersman, Fred'k.—Los Angeles.
 White, Harry O.—Los Angeles.
 Cartmell, Theodore M.—Los Angeles.
 Baker, C. D.—Los Angeles.
 Thayer, Lyman Elanson—Los Angeles.
 Berge, F. Emil—Los Angeles.
 Benepe, John L.—Los Angeles.
 Lipson, I. M.—Visalia.
 Smith, Ralph Thaddeus—Pomona.
 Bucknam, Ralph W.—Hollywood.
 Field, A. M.—Patterson, Cal.
 Martin, Dale L.—Orland.
 Walker, Wm. H.—Willows.
 Marshall, Malcolm Y.—Bakersfield.
 Barney, H. N.—Richmond.
 O'Malley, G. M.—Crockett.
 Camp, C. E.—San Pablo.
 Lucas, Wm. M.—Richmond, Cal.
 Farwell, Margaret W.—Los Angeles.
 Schutz, M. H.—Oakland.
 Crawford, Alexander K.—Oakland.
 Pruett, W. C.—Oakland.
 Mosby, George—Oakland.
 Nusbaumer, Pauline S.—Oakland.
 Orr, Jane—Oakland.
 Wilcox, Wilbur J.—Oakland.
 Chiapella, J. O.—Chico.
 Petersen, Dagmar—Selma.
 Wagner, J. D.—Selma.
 Emerson, Lura J. Brown—Los Angeles.
 Emmons, Calvert Luther—Ontario, Cal.
 Hibben, John Severy—Pasadena, Cal.
 McCoy, Thomas J.—Los Angeles.
 McCreery, Rolla L.—Los Angeles.
 Miyata, Yujiro—Los Angeles.
 Newton, LeRoy Allan—Los Angeles.
 Swearingen, Forrest C.—Los Angeles.
 Wilson, Paul White—Whittier, Cal.
 Klotz, Walter C.—Los Angeles.
 Fiegel, F. X.—San Bernardino.
 Means, Samuel W.—San Francisco.
 Geith, C. R.—Corona, Cal.
 Lynch, Frank W.—San Francisco.
 Shrodes, Geo. H.—Delano, Cal.
 Prose, T. W.—Woodland.
 Stark, Jno. Henderson—Oakland.
 Parker, H. R.—Dunsmuir, Cal.
 Atkinson, A. A.—Dorris, Cal.
 Deakin, S.—Sisson, Cal.
 Hall, Geo. Joyce—Yreka, Cal.
 Bathurst, E. W.—Etna Mills, Cal.
 Haines, W. H.—Etna Mills, Cal.
 Shaw, W. F.—Yreka, Cal.
 Hathaway, G.—Yreka, Cal.

DEATHS.

Harcourt, Luke A.—Niles, Cal. (Died in San Francisco.)
 Turnbull, Walter Lathrop—Died in Berkeley.
 Wilcox, Wilbur J.—Oakland.
 Campbell, Wm. Hayden—Died in Los Angeles.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Harry E. Alderson, M. D.

René Blin, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - -

Butler Building,

State Journal, - - -

San Francisco.

Official Register, - - -

Telephone Douglas 2537

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV

JUNE, 1916

No. 6

EDITORIAL NOTES

MALPRACTICE DEFENSE.

In spite of the fact that the relation of the State Society to the various insurance companies and to its members has been repeatedly set forth, letters of inquiry are constantly being received. We would respectfully request all members to read very carefully the information published in the April Journal, particularly on pages 128 and 129, and on pages 132 and 133.

POORLY QUALIFIED.

The following letter, which is published exactly as written except that the names are not given, speaks for itself and shows more clearly than any mere discussion could show the way in which the present medical law and its administration are admitting very poorly qualified persons to practice upon the people of this State:

March 27th, 1916.

Dr. John Doe:

Dear Doctor—Your letter of the 25th, asking for information in regard to Dr. A. B. See, is received. He graduated from the Keokuk Medical College, Iowa, May 26, 1908. He applied for license in this State the same year, and at the examination in August failed with a mark of 58.3. On May 7, 1909, he called at our office and told me that he was licensed in Nevada, that Nevada reciprocated with 16 states, that he could practice there, and before long would come back here and be licensed under reciprocity. In May, 1909, he applied for reciprocity from Nevada with-

out result. He took the examination at Sacramento in December, 1913, and was rejected. He was licensed under reciprocity July 10, 1915, by the State Board of Medical Examiners of California.

This is a typical case of the manner in which the law regulating the practice of medicine in the State of California is being broken down: first, by influences lowering the standards required by law, and second, by the operations of the Board of Examiners in administering the law.

Cordially yours,

(Signed) PHILIP MILLS JONES,
PMJ:S Secretary.

BREACH OF CONTRACT.

In a recent Bulletin of the Los Angeles County Association reference is made to a decision of the supreme court of Mississippi, abstract of which was published in the *Journal A. M. A.*, March 18, 1916, page 915. In this case a physician was held liable for not attending a woman in confinement when he had previously agreed to do so, for the reason that at the time when the woman was delivered he was employed in attending to another patient. This case is somewhat peculiar, and the decision against the physician was probably made for the reason that apparently he made no effort to send someone to take his place. This whole question of the right of a physician or patient to terminate the unwritten contract which exists between them is pretty well and clearly defined at law. The real basis of it may be said to be a matter of simple courtesy of one to the other. If a physician finds himself in a predicament of this kind, and is notified that a woman whom he has previously agreed to confine is about to be confined, and if he is in attendance upon another patient, he should immediately notify the woman to be confined, or her relatives or friends, and make some effort to see that she is properly cared for. The case cited would apparently come somewhat under the decision of the Flood case in this state, where the termination of services was abruptly performed by the physician and without due consideration for the patient.

CALIFORNIA SPRINGS.

The cry of "see America first" has been heard throughout the land. But the European war and the fear of submarines did more than any amount of advertising, to convince the traveling public of the wisdom of heeding the cry. So, too, with our mineral springs, with which this country, like Europe, is richly endowed. The waters of the European Spas can all be duplicated in the United States. Some of them are possibly superior to those of Europe. The great trouble with the springs in this country, is that no real effort has been made to induce people to go to them. In this State, we have no place that really meets the requirements of a first class resort. First class hotels, attractive grounds with an abundance of carefully laid-out walks, convenient drinking places,

proper bathing facilities, carefully planned institutions for hydro- and mechano-therapy,—all these are needed, if a resort is to attract people, or if it expects the support of the medical profession.

It is possible that the profession does not thoroughly appreciate the value of our mineral springs. Too often are we apt to attribute the benefit derived by patients at distant resorts to the change of climate, the interesting trip, the freedom from household or business worries or duties, discounting the effect of the waters, often because the drinking of the same waters after they have been bottled, is devoid of results. Recent observations would seem to lend truth to the belief that waters drunk or bathed in, at their source, are better by far than if the bottled product is used. The discovery of radium in many of the waters in the United States as well as in Europe explains why this may be true.

In Europe, the various municipal and state governments have done much to develop their resorts, not only because of the desire to lessen the suffering of humanity, but because of the revenue ultimately derived therefrom. A few years ago, the State of New York purchased Saratoga Springs. It obtained the services of experts to aid in the restoration of the springs which had suffered at the hands of near-sighted commercial interests. It has spent considerable money; it is to-day beginning to reap its reward; physicians are studying its waters; they expect to find that they are as efficacious as those of Nauheim, Vichy, Kissingen, etc. It will not be long before the cardiac, the nephritic, the gouty, the rheumatic, will be taught to "drink and bathe in America first."

In California we have numerous springs. None of them may be said to be properly managed. They not only lack many of the essentials necessary for successful handling of patients, but no attempt is made to run them on a scientific basis. By their extravagant claims and literature, they create distrust rather than confidence in the minds of the profession.

Might it not be well if our most active and very efficient State Board of Health, among its many other duties, took it upon itself to investigate our California springs, and make recommendations so as to induce private interests, or failing in this, perhaps the legislature, to improve our resorts and place them upon a proper basis.

R. B.

FIRST AID COMMITTEE.

Through an error contained in a circular of information which was received in the JOURNAL office, we published a statement in a recent issue of the JOURNAL, giving the erroneous personnel of the Committee on First Aid of the Medical Society of the State of California. The correction is here and now made. The committee appointed by the president of this society at the time, Dr. Harry M. Sherman, is as follows: L. P. Howe, San Francisco, chairman; E. A. Bryant, Los Angeles, and G. J. Bergener, San Francisco.

SOCIAL OR HEALTH INSURANCE.

As will be seen from the minutes of the House of Delegates at the Fresno meeting, published elsewhere in this issue of the JOURNAL, considerable attention was given to a discussion of this very important subject. The JOURNAL has previously called attention to the fact that in this State a commission to study the whole situation was authorized by the last legislature, and an appropriation of \$20,000 provided for the purpose. The members of this commission are: Miss Barbara Nachtrieb, secretary; Miss Katherine C. Felton, Mrs. Frances Noel, George Dunlop, Dr. Flora W. Smith and Paul Herriott. The American Medical Association, through its Committee on Health and Public Instruction, has created an office at 131 East 23rd Street, New York City, and has placed in charge of it, as Secretary of the committee, Dr. I. M. Rubinow. The purpose of this committee of the A. M. A. is to study thoroughly the whole situation and keep medical men in touch with what is going on. On another page of this issue will be found the first circular of information issued by this committee. The State Society, at the Fresno meeting, authorized the appointment of a committee of the society to confer with the State Commission, which committee is as follows: Dr. René Bine, San Francisco, chairman; Dr. F. F. Gundrum, Sacramento; Dr. Harry M. Sherman, San Francisco; Dr. George G. Reinle, Oakland; Dr. George E. Tucker, Riverside, and Dr. George H. Kress, Los Angeles.

COMMITTEES OF THE STATE SOCIETY.

The president, Dr. George H. Kress, of Los Angeles, has appointed committees as authorized by the House of Delegates at the Fresno meeting, as follows:

PUBLICATION COMMITTEE.

W. P. Lucas, San Francisco; Harry E. Alderson, San Francisco; Sol. Hyman, San Francisco, and René Bine, San Francisco.

COMMITTEE ON INDUSTRIAL ACCIDENT INSURANCE.

C. P. Thomas, Los Angeles, chairman; J. H. Graves, San Francisco; M. R. Gibbons, San Francisco; John C. King, Banning; B. F. Church, San Bernardino, and P. M. Jones, San Francisco.

DIFFICULT SITUATION.

Sometimes the surgeon is confronted by a legal problem of the greatest importance both to his patient and to himself. This is well illustrated in a recent case. The patient suffered from a brain tumor which had so far encroached upon brain tissue as to destroy all memory of recent occurrences, while in no way interfering with past impressions, and threatening loss of sight. To the casual observer he was perfectly sane and he repeatedly refused to consent to an operation. The consultants all recognized that an immediate operation was the only thing offering a possibility of saving his sight and perhaps restoring him to reasonable comfort. What should be done? Should the medical men and the surgeon, realizing the

importance to the patient of surgical interference with as little delay as possible, proceed to operate, or should they respect his irrational objection to the operation and allow the condition to proceed to its inevitably fatal termination? There is only one way in which a situation of this kind can with safety be handled. Application should be made to the superior court for the appointment of a guardian. Almost any judge of a superior court, if the circumstances are properly explained to him by reputable medical men, would appoint a guardian of the person of such patient and such guardian could then authorize the operation. If this is not done, no matter how successful the operation may be, if the patient on recovery saw fit to do so, he could bring suit against the surgeon for trespass upon his person and would be entitled to damages.

MANY THANKS!

May 13th, 1916.

My Dear Dr. Jones:

I have just a moment to spare in which to commend you in the zeal and activity manifested in getting "Dr." Hartland Law squelched in his advertising scheme connected with the State University; a good watchman you are on the tower and your success in this matter indicates that gray matter fearlessly used can triumph over foul smelling millions. May your good work be long felt and as similar things come with passing time I wish you the same success in dealing with them. No doubt the profession in all parts of the state will read with profound interest what you say of the case in the May JOURNAL.

Very sincerely yours,

A. B.

HELPFUL SUGGESTIONS.

At the Fresno meeting of the State Society a new plan of registration was put into effect. Instead of crowding around and awaiting an opportunity to sign a book, cards were supplied which could be filled out and handed in to the registration clerk. On these cards a space was provided with request for suggestions or recommendations. Something over 350 of these cards were filled out and handed in, and out of the whole number there were four on which, under this space for remarks and suggestions, comment appeared. In one case the suggestion was to change the time of meeting, which is established by the constitution and by-laws and a change in which has on several occasions been discussed by the House of Delegates and rejected. In two cases approval of the proposed indemnity fund was given. The remaining member—and may Heaven shine upon him for all the rest of his days!—merely said that he was satisfied with everything. If some of the members who talk amongst themselves, apparently objecting to almost everything, would only avail themselves of an opportunity of this kind and supply the office of the Society with helpful suggestions, their courtesy in so doing would be highly appreciated. As we have before remarked,

neither the Secretary nor anyone employed by the society happens to be a mind-reader.

A. M. A. DIRECTORY.

The last edition of the American Medical Association Directory was issued about the middle of April, and to anyone needing reference to the names of physicians throughout the United States it is practically invaluable. It is not at all difficult to master the signs and symbols used to indicate connection with societies, specialties, etc., and at a glance one may form a reasonably good idea of the character of a physician in almost any part of the United States. The Association is to be highly commended upon the publication of this invaluable work.

OWNERSHIP OF X-RAY PLATES.

This question has been raised repeatedly and presented itself at the Fresno meeting, as will be seen from the minutes of the House of Delegates. A careful search of the records of decided cases in this country reveals the fact that there has been made no decision covering this point. A few decisions in regard to photographs have been made, and these will be found, together with some comment on the subject, elsewhere in this issue of the JOURNAL. The matter of having in one's possession an X-ray plate of a fracture or a condition where the X-ray plate offers illuminating information, is of the greatest importance. It should be a fixed rule, never broken by any member of the society, to take or have taken and keep in his possession such X-ray plate or plates. He should not give them up under any circumstances, unless ordered to do so by a court and if such a condition should arise this society will handle the legal end of it.

A. M. A. LIBEL SUIT.

The widely celebrated suit against the *Journal of the American Medical Association* and its editor, Dr. George H. Simmons, by John A. Patten and the Chattanooga Medicine Company, is at least temporarily stopped owing to the death of Mr. John A. Patten. Whether or not the trial of the case will be resumed is uncertain. Mr. Patten died in a hospital in Chicago on April 26th and, as nearly as can be determined by the newspaper reports, from some intestinal complication. Those who have been following the transcript of the testimony, published from week to week in the *Journal A. M. A.*, will have noticed how heavily the case was going against the Wine of Cardui people.

THE "PRACTICAL NURSE" AGAIN.

Another suit for damages for alleged malpractice, which was tried and won by the defendant physician not very long ago, brings out very forcibly the danger to the physician when the patient is cared for by a "practical nurse." It is true that in many cases, particularly confinement cases, the patient cannot afford to employ the services of the trained nurse and therefore engages the

services of that anomalous article, the practical nurse. If you have to deal with one of this class, be very sure to keep carefully all records of the case, and take into your own possession for preservation any bedside charts that are used and any original written instructions or copies of them made at the time. The practical nurse is as a rule but once removed from the village gossip, and she can make more trouble for the physician by idle and unthinking chatter than one would imagine possible. Incidentally, in connection with this matter of keeping the records, it may be remarked that courts are beginning to look very unfavorably upon physicians who appear in such courts without full and careful records of the case or cases involved.

SCIENTIFIC ANACHRONISM.

Mr. Kipling's friend Mr. Mulvaney referred to the elephant as a "pachydermatous anachronism." There are such things as scientific anachronisms. Also, there is a very old saying that shoemakers' children go barefoot. You may wonder how an elephant and a shoemaker's child can in any way bear upon what is to follow. It is very easy. A supposedly modern, hyper-scientific teaching hospital allows student nurses to care for typhoid patients without previously having given or insisted upon giving to such students the typhoid prophylactic treatment!

SANITARY ENGINEERING.

A short time ago we published an article descriptive of the epidemic of typhoid fever in Santa Barbara, with an analysis of the situation and a very clear description of the water supply and its dangers. It is indeed a pleasure to note from a subsequent report from the Bureau of Sanitary Engineering and the Bureau of Communicable Diseases of the State Board of Health, that most sane and excellent recommendations have been made. In discussing the work on the tunnel through the mountains, which supplies a good part of Santa Barbara's water and eventually must supply it all, it is recommended in this joint report that all workmen be thoroughly examined before they are employed upon this work and at least quarterly thereafter. Also, it is recommended that all workmen, before being permitted to work upon this job, be given the typhoid prophylactic treatment. Of course the examination of prospective workmen would include a careful examination of their excreta in order to eliminate the possibility of employing a typhoid carrier. The recommendations of this joint committee of the State Board of Health must certainly be most highly commended. We believe that this is the first time, at least in the history of this State, that such a recommendation has been made.

BILLS AGAINST AN ESTATE.

Dr. Marxmiller of Los Angeles, in the Bulletin of the Los Angeles County Association, brings up the question of filing bills against the estates of deceased patients. There is a slight correction to be made in his statement that the bills must be

filed within four months. This applies only where the amount of the estate is less than \$10,000. If the estate exceeds in amount \$10,000, ten months are granted. The time runs from the first publication, as required by law, of the notice to creditors given by the executor or administrator. These notices are all of the same definite form, a sample of which is as follows:

NOTICE TO CREDITORS.

ESTATE OF JOHANNA KOZMINSKY, Deceased.—No. 20679, N. S.—Dept. No. 9.

Notice is hereby given by the undersigned, David C. Kozminsky, executor of the last will and testament of Johanna Kozminsky, deceased, to the creditors of and all persons having claims against the said decedent, to file them with the necessary vouchers within ten (10) months after the first publication of this notice, in the office of the Clerk of the Superior Court of the State of California, in and for the City and County of San Francisco, or to exhibit them with the necessary vouchers within ten (10) months after the first publication of this notice to the said executor, at the office of his attorneys, Redman & Alexander, Room 1016, Mills Building, in the City and County of San Francisco, State of California, which last-named office the undersigned selects as his place of business in all matters connected with said estate of Johanna Kozminsky, deceased.

DAVID C. KOZMINSKY.

Executor of the Last Will and Testament of Johanna Kozminsky, Deceased.

Dated, San Francisco, California, April 6, 1916.

REDMAN & ALEXANDER, 1016 Mills Building, San Francisco, Attorneys for Executor.
Apr 7-5tF

SPLENDID WORK.

As an example of what the united efforts of any County Unit can accomplish in the way of library building, San Diego offers just now a forceful illustration. One year ago in March a small group of the local members of the County Medical Society incorporated themselves into a library association. By courtesy of the local Medical Society they were privileged to make use of the Society's rooms rent free. Without the actual possession of a single volume or a dollar of endowment they went about their task of library building. The prompt and generous way in which many private collections were contributed to the new movement gave it an early nucleus upon which to build. Entering on its second year, the San Diego Medical Library Association is a self-supporting organization of seventy-seven members, with a reading room equipped with seventy regularly appearing journals, and cases obtained by gift containing between 1400 and 1500 bound volumes of text-books and journal files. Their most practical asset, however, is a working system whereby, with the aid of their capable librarian, they can supplement their own meager possessions by drafts upon the courtesy of well-established libraries, thus enabling them to assemble promptly the literature on any desired subject. The monthly increase of the demands upon the librarian's time for such service speaks well for the appreciation of the movement on the part of the local profession. We wish our San Diego members continued success in their enterprise.

ADDRESS OF THE PRESIDENT.*

HARRY M. SHERMAN, M. D., San Francisco.

Fellow Members of the Medical Society of the State of California:

It would be a most ungracious thing if I did not here reiterate the appreciation I expressed two years ago in Santa Barbara when you selected me to be, for the time being, the presiding officer of the society. The honor you did me in selecting me for office for this particular season, I have tried to merit by an earnest application to my duties as these have shown themselves to me. Service is the most direct and expressive way of showing gratitude; service to one's fellows the most welcome form of service; I therefore thank you again for having given me this opportunity to have served you and the society in the past two years.

The president of this society has the privilege as well as the obligation of addressing the society upon a subject which he selects as being one of importance and moment. With considerable doubt about my being able to say aught that can ameliorate any of the untoward conditions under which we work, but with no hesitation whatever about what I am going to say, I beg you to listen and to consider with me the subject that I have selected. It is one which has been, and is, and always will be with us—always insistent of attention—always trite and wearying—hut always of great and growing importance: the subject of "The Standardization of Medical Men, with Special Reference to That Standardization Being Understandable by and Appealing to the Layman." This is the clause that must save the subject, here in its presentation before you, and in its concrete application as well—a standardization that the layman can understand and appreciate—a standardization not made of us by him, hut made by us for him.

The president of this society, never selected because an executive or an administrator is needed, becomes *ex officio* a member of the executive body of the society—the Council. Here, among men whose tenure of office exceeds his own and whose continuity as a body is assured by the overlapping of the periods of holding office, he learns details of policy formation and control, and business management and administration which he could never know without that association. Here he can appreciate, better than can be done on the outside, the adverse pressure that is constantly on the medical profession and the constant watchfulness and unbroken counterpressure that are demanded to resist it. Here, he learns that directing the affairs of the society and of the profession is a "big business," with many sides and many phases. Here, too, he sees that policies tending to mutual understanding between the layman and the physician are just as necessary to making the service which the physician sells the layman salable, as they are to the marketing of the output of any other "big business." In each and all, methods which make the customer or patient desire

and seek for the product of the manufacturer or the service of the physician, are living methods, and profitable to both parties.

At what point, and in what way can the methods of the medical profession be changed so as to help the layman to want the physician rather than the charlatan, to help the layman prefer the better equipped and prepared man to the more poorly equipped: to make the layman take the same trouble in selecting a physician that he would in engaging a chauffeur or a cook? Have any of you ever talked with some friend about your profession and noted his real ignorance of rudimentary facts concerning medical education, medical literature, medical progress and medical aims? I had such a talk, within the past ten days, with an attorney whose name spells ability and worth, and I found that he had no concept of the obligation that was upon him to know matters of this kind about a sister profession, that he would be quite willing to take a physician or a surgeon on a friend's valuation without knowing where that physician had studied, what hospital or other experience he had had, or what was his particular fitness for any special work. In other words, all he wanted was the layman's physician—he did not think of the physician's physician. The average layman judges critically those matters with which he is acquainted; he takes but little trouble to get acquaintance with matters outside his ordinary experience; he follows the multitude to the physician's door as he does into the shops, and commonly accepts the fate that awaits him with a confident stoicism and the self assurance that his selection had been that of the best there was. It is true that we see him to-day earnestly supporting medicine in its higher phases of education and practice; we see him to-day applauding the gift of thousands of dollars to some hospital or medical school; hut we see him *also* to-day trooping after the exponent of the last "pathy" hatched in some errant brain, and we see him again to-day busy in the legislature to qualify the unqualifiedly had, to legalize that which is unreason, to create by enactment a minor part of therapeutics into a scheme that shall cover and answer for all medicine, or hatching laws to limit and control normal study and investigation of natural phenomena for the practical benefit of man. We see him, too, Janus-faced, denying the evidence of his senses and refusing to recognize fact, through part of his experience in life, and in the next moment guiding his feet and controlling his actions in full accord with the physical and social world around him. It goes without saying that no scheme of things bounded and controlled by fact and by reason can attract and satisfy all of the multitude of the average; he who resents the orthodox because it is such, has to revolt because he is what he is; and he who does not think, no matter what may be the need of it, cannot be caught and held when appreciation of conditions is necessary. But, in spite of the refractory or indifferent character of the mass, there must be some way by which the medical profession can reach them and attract them,

* Read at the Forty-fifth Annual Meeting of the Medical Society of the State of California, Fresno, April, 1916.

some way by which they can be shown that better service is here rather than there, that serious preparation through several years must end in greater competency to understand and control natural phenomena than a brief and frivolous preparation, and that the day is long since past when the unknown was revealed to man rather than dug out by him.

It seems to me that this end must be accomplished—if it can be accomplished—by improving the product, that is, the quality of the medical man and his service that the medical profession offers the layman; or, by the elimination of the less fit and the unfit of the cults and “pathies” about us; or, by announcing the medical profession to the layman in such a way that he can understand without thought or investigation; or, by all these ways together.

Now, we do not need, so far as the layman average is concerned, to endeavor to improve the medical product. He is indifferent to the quality, as it is, and does not really ask for a higher grade of physician. Again, so far as he is exemplified by his selected representatives in legislatures, he prefers the short term man to the long term man—he deprecates full knowledge—he still wishes the man who will treat, even though he knows not what he is treating, rather than the man who insists on taking time to learn conditions before he prescribes a course of action. Again, and on the other hand, since medicine has been recognized by the universities, since medical education has passed from the hands of the practitioner to its true place in the academy, its full development has been assured, and its status from now on need cause the medical profession no anxiety. This does not mean for an instant that the medical profession need take no further interest in medical education. The bias views of two state universities in the past two years regarding a pseudo-science show us that the instructor is not infallible, but in spite of these pitiable errors of judgment, the universities have educational ideals to which they are bound, from which they cannot withdraw without at once calling out the criticism of the expert, and with the full knowledge that the lapse cannot be concealed nor excused. Therefore medical education must take its stand with education in general, as a matter of education, and with improvement and development in the university as a whole, or in any individual branch or department, there will come inevitably and automatically improvement in medical education.

Therefore, so far as improving the product is concerned, the average layman does not demand a better physician, and we cannot attract him by offering him one. The universities are going inevitably to produce him, but his coming will not solve the problem I have set for our consideration.

The second possible means—the elimination of the less fit and the unfit—may be put aside as really an impossibility. No sooner does one cult become senile or die than another leaps up to take its place, and no sooner does this one wax lusty and

prosper than a rival appears to share the spoils. Even in that country which was most abundantly ruled and governed, quackery and charlatanry ran riot, and were even recognized as such. Moreover, any method of elimination, apart from absorption—which can be done only when the cult has developed out of its aberrant theories into the lines of pure science—calls to the aid of the condemned all support by the cry of “jealousy,” “selfishness,” and the charge of injustice to innocence.

The medical profession must make up its mind to having always rivals in the hangers-on to its skirts, parasites who profit by its knowledge and achievements, but who pay naught and give less. They can only be eliminated by the layman; but he loves them, turns to them, leans on them, and by so doing supports them. They are like the poor—they will always be with us.

The next suggestion of a means to attract the layman to medicine and away from cults and “pathies” is really a form of advertisement. The individual medical man cannot advertise himself to his public. He can, of course, announce himself as ready for work of some specific sort, but this is not an advertisement in that he cannot personally claim any special or particular excellence or preëminent ability without the loss of professional standing and dignity. But that which the individual cannot do without this loss—a loss which at once negatives the value of his advertisement—the profession as a whole can do; in fact, it is doing it all the time, as in its propaganda for the control of tuberculosis, or of cancer—its public teachings about plague or other contagious or epidemic diseases—its public teachings about home and personal hygiene, or the care and nurture of infants, or the special requirements of the deficient—and medicine is doing this not only without the loss of one jot or tittle of standing and dignity, but always with added merit and renown. Indeed, if medicine did not do these things, and claim excellence and preëminence in the doing of them, it would be quite as much open to criticism as would be the individual who vaunted his own value to the same extent. There is wisdom in the distinction. Individuals are many; rivalries and competitions would be inevitable, ending in discord in the profession and unutterable confusion in the layman. Medicine is single and distinct; its announcements of its discoveries, its accomplished works, its powers and potentialities are made without the possibility of any rival making contrasting or competing claims. Its imitators seize its discoveries, and copy its methods, exploiting them as far and as long as they can for their own advantage, but this does not constitute a rivalry nor a competition, for an imitator, by the very fact of his imitation, is a follower, and so debarred from independent competition.

Therefore, since medicine can announce and also advertise, while the medical man alone can only announce, it is through medicine that he must seek and find his method of advertisement. There is nothing new in this. For long have physicians

and surgeons sought and secured positions of responsibility and eminence, not alone for the happiness of doing difficult tasks, but also for the prominence such positions gave them above their fellows. And now, for the purpose of our inquiry, we must see what mechanism exists in medicine which can be used for this advertisement of all, not of a few—an advertisement which must attract the layman and draw him, for his own benefit, to medicine and the greatest competency of the day, and away from the "pathies" with their incompetencies.

Naturally, one turns at first to the already existent organizations of medicine, and particularly to the Medical Society of the State. Is it in such a position, has it such an organization and mechanism as would make it an adequate medium to reach the layman? Would the layman listen to statements made officially by it, and accept them because of their source? How is the society constituted? What is its membership? To how many of the laity is it known?

Taking these last questions in inverse order for the answering, I am certain that I am not overstating nor understating the fact when I say that ninety-nine laymen out of a hundred in the state have no conception at all of the real motive of the society, no appreciation of the higher in contrast with the lower in medicine; that ninety-eight or ninety-seven out of a hundred in the state would deny that the society could be formed for any but the selfish aims of the members; that ninety-six or ninety-five out of a hundred might acknowledge that they had heard that there was such a society, but would assert that they had no interest in its existence, and that ninety out of a hundred would affirm that they had no recollection of ever having heard of it and no knowledge of its existence. Surely, if this is so, the society would be but an impotent medium of announcement. That it is such must be the fault of its membership. Therefore, what is its membership? How is the society constituted?

According to the constitution, the portals to the State Society are the county societies, and the constitution states that "each county society shall judge of the qualifications of its own members." Therefore the State Society is made up of members of the county societies, with no vote nor veto power vested in the State Society. The county society is the unit, and the state society a federation or union of the membership of the units. Admission to the county societies is by election, based, as it always is, on information and belief regarding the candidate. Once a member of the county society, that society is the primary organization: the state society is some distant annual recurrence to which the county member has access with no further formality. Obviously the state society cannot vouch for its own members; if a question is raised about one of them it must be referred back to the county society of which that man is a member. Obviously again, the state society, supposing it was a competent medium toward the layman, could not certify to the ability

and skill of any one of its members. For every one, then, the society would be a useless method of individual certification of ability, just as membership in it to-day is a negative criterion of ability for all.

Now, I think that this condition, which quite prevents the society's taking that relation toward the laity which it should take, so that the layman would consider it quite as much his society as the physician's, is wrong, and I believe that it can be and that it should be corrected, though I am well aware that the methods I shall propose for its correction will be thoroughly criticized.

In the first place, in order that any organization may be able to certify to the character and ability of its membership, it must select that membership in accordance with some definite standard. This means some form of an examination, and methods of examination are now so improved that much of the current criticism and condemnation of them has lost its point.

I mean here an examination different from and above that of any state examination. We have seen that test so twisted and knotted that it cannot measure correctly. We have learned the error of expecting the inexpert to wisely prescribe methods and standards for classifying the expert. We must take back into the hands of medical men the examining of applicants for membership in our learned societies. No longer should they find easy access, through a state examination and an election. No longer should they be allowed to demonstrate their professional ability or lack of it by uncontrolled work on men, women and children. This, again is not a novel proposition, for one state society already has, in fact, has always had, the test of an examination for admission to it.

The state society—the examining society—should be the unit in the state; county societies should be the sub-units or fractions, each getting its organization and charter from the state society of which it would be, not a component part, but an integral part.

By these two measures, the establishment of a test by examination for admission to the state society and the making the state society the unit in the state, it would be in a position to go to the layman and say: "These are the members of this organization, every one has been tested and found fit to undertake the heavy responsibilities you have for him: the organization, as a whole, is behind each member. Membership in this society is a criterion of ability and worth."

But:

That would only be the beginning. This society would then have the task of coming openly before the public, not only as a standardizing and certifying body for its physicians, but also as an educating body for the layman. It must frankly adjust itself in relation to the layman, so that he will listen: it must not expect the layman to, in the first instance, come to it. On the contrary, the society must in the first instance go to the

layman, and then see to it that the layman comes to it in the second instance. At the present time, the State Board of Health is the body to which town and city governments and public and quasi-public corporations turn for information and advice regarding public hygiene and sanitation. This should always be so. But there are questions which are not sanitation matters, problems before chambers of commerce, boards of trade, corporations conducting enterprises which need medical supervision, or conducting hazardous enterprises in which accidents occur necessitating the employment of surgical services, and so on; the society should so establish itself in relation to these sister corporations that they would turn to it with no question but that that was the natural and first thing to do for information, for advice, for assistance, or for the nomination of suitable men to take up particular functions. The society should so establish itself in the knowledge and regard of every individual that no man would ever think of sending into the sick room of his wife or his children, nor of calling to his own aid, a physician or a surgeon who was not a member of the society and had not its endorsement of his skill and his morals.

Thirty years ago, when I became a member of the society, its annual meeting, the papers read, and the banquet constituted all. And that was enough. The membership was small, its needs were simple and were satisfied without difficulty. These thirty years have seen the development of a relatively most complex organization out of the original simplicity. But while applauding this and emphasizing the importance of the work now done, I insist that it is not enough; I insist that development is imperative, and I affirm that it should be along the lines I have indicated—by gradual advance and successive small alterations, which shall be properly adjusted and anticipated, and announced in advance, until the changes I have indicated have been brought about. It can never be enough that the society shall expend practically a hundred per cent. of its energies on its own membership or for its own membership. It can never be enough that the society shall be seemingly always in opposition to the laity in the legislature and in courts, even though that position of opposition is forced on it by the laity itself. It can never be enough until the society shall be able to live up to the letter and the spirit of that sentence in the announced object, which says: "to enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself and more useful to the public." It can never be enough until the society shall surely be, so far as medicine is concerned, all things to all men in this State of California.

Forty-fifth Annual Meeting

REPORT OF THE SECRETARY.

To the President and Members of the House of Delegates: Medical Society State of California. Gentlemen:

As required by the By-Laws, the Secretary herewith presents a statement of the condition of the membership of the Society and, as there was no meeting in 1915, a brief statement of the years 1914 and 1915 is included.

The year 1913 closed with a membership of 2396.

The year 1914 closed with a membership of 2503.

The year 1915 closed with a membership of 2557.

In 1914 there were 27 deaths and 5 resignations.

In 1915 there were 36 deaths and 3 resignations.

It will appear from these figures that there are very few resignations, and that in spite of resignations and deaths the membership has constantly grown.

A word may be added in the nature of a report from the Editor.

The work on the Directory has grown so much that its publication in the latter part of last year was impossible. Owing to the increase of work of all kinds in the office, it has been necessary to add the services of an additional clerk, and this will permit us to more carefully systematize some of the work and probably get the material for the next Directory together in quicker time.

Journal: In the opinion of the Editor, the average quality of the papers in the Journal shows a definite improvement. This is in no way due to the work of the Editor, but is an indication of the fact that our members are producing better and more valuable papers.

The Publication Committee has been at all times of the greatest service to the Editor, and the members of the Committee have cheerfully read and considered a large number of papers. No paper has been rejected or refused publication until after submission to at least one or two of the members of the Committee.

Respectfully submitted.

(Signed) PHILIP MILLS JONES,
Secretary.

REPORT OF THE COUNCIL.

To the Officers and Members of the House of Delegates: Gentlemen:

Your Council, as required by the By-Laws, presents herewith a report of the affairs of the Society, including its various activities, covering the period of the two years 1914 and 1915.

The financial statement, together with the reports of two firms of certified public accountants for the year 1914, was published in the Journal for November, 1915.

The report of the certified public accountants of the audit of the books and accounts for 1915 appears in the Journal for April, 1916.

Journal: The Journal shows some slight increase in receipts, and the early part of 1916 shows an additional slight increase. It will also show a considerable increase in subscriptions.

Allowing \$1.00 per member as subscription to the Journal, it will be seen that the Journal is earning a profit which pays two-thirds of the amount of the salaries paid out in our office.

Register: The Register is a loss, and will always be a loss, to the Society. Furthermore, the amount of annual loss on its publication is increasing. The Council has heretofore called attention to the fact that the Directory is not considered to be a valuable advertising medium and that it is increasingly difficult to secure advertisements for it. We must confidently expect that it will always be an expense and never a producer of revenue.

Industrial Accident Insurance: A number of complaints having been brought to the attention of the Chairman of the Council by the Secretary of the Society, the Chairman appointed a committee consisting of Dr. James H. Parkinson, Dr. Sol. Hyman and Dr. Philip M. Jones, to represent this Society in the sessions of a joint committee, on which the additional members were Messrs. Bower, Wistrand and Coen of the Casualty Insurance Adjusters' Association, and one from the State Compensation Fund—Dr. Morton Gibbons. This Committee considered various matters presented to it, and found:

1st. That nearly all complaints were due to a failure of the physician in the case to understand the situation, properly make out his bills, reports, etc., and a lack of realization on his part that additional compensation is willingly allowed when the circumstances justify it and the facts are duly presented to the company.

2d. In the matter of complaint that certain physicians were acting as agents and as surgeons for the company, such a condition of affairs, if existing, was found to be without the knowledge of any company, and was probably a local understanding between the physician and the local agent.

3d. In regard to complaint from Los Angeles that companies were making contracts with physicians, paying a fixed and insufficient amount as flat compensation, it appeared that only one company in one instance, so far as known, had done this and that was a single case in Los Angeles.

It was decided to form and put into operation a *Grievance Committee*, as recommended in our report of April, 1914, and authorized at that time. This Committee has been appointed as follows:

For the Medical Society: Dr. Morton Gibbons, Dr. Sol. Hyman, Dr. Philip M. Jones.

For the Insurance Board: Messrs. Bower, Wistrand and Coen.

This Committee will meet at any time, consider any complaint, and endeavor to secure an amicable adjustment.

Medical Defense: The most important work which this Society has ever undertaken is that of defending its members when sued for damages for alleged malpractice.

From 1909 to 1913 there was comparatively little work. The total cost of the work in all parts of the State for those five years was \$13,323.07.

As an indication of the way the work has increased, it may be noted that for the two years covered by this report the cost was \$16,157.04.

The cost by years is as follows:

1909	\$ 788.08
1910	1,689.37
1911	2,389.65
1912	3,242.87
1913	5,213.10
1914	7,093.01
1915	9,064.03
	<hr/>
	\$29,480.11

From the map and figures presented, it will be noted that there have been 270 suits or threats from attorneys; these are not separated for the reason that any separation accurate to-day might be false to-morrow. In other words, any number of threats may become suits at any time, and in both events expense is incurred by the Society.

This work is actually a very serious and a very considerable business undertaking, and your Council has conducted it in as nearly a business-like way as possible. It is not good business to employ several people to do work that one person can do; it is not good business to allow a party to a contract to be excused from performing his obligations. Therefore the rule was made in regard to handling cases where a suit is filed against a member who is also insured in an indemnity company. If such company employs thoroughly qualified lawyers, there is no necessity for our going to additional expense in the matter. Also there is no necessity for excusing such insurance company from paying all the court costs, etc., which it has by contract undertaken to pay. Where our attorneys have reason to believe that they can be of material assistance in defending the rights of the member, they are instructed in all cases to do so. As an illustration of this we might cite one county alone; to go into all the cases would be far too tedious. In Alameda County during the period covered by this report, in three instances where each one of the three members held insurance, and where the court costs, etc., were paid by the insurance company, we felt it necessary for our own attorneys to take charge of the actual trial, and these three cases cost the Society for this defense, in addition to the costs paid by the insurance company, \$985.00.

Complaint has been made that in the event of judgment against a member, the amount assessed would have to be paid by himself. This is correct. This is the action that was taken in April, 1909. If the House of Delegates wishes to change this action and create a fund out of which such expense items may be paid, it can do so by placing any assessment it sees fit upon the membership. In this connection, we report that during the total existence of our medical defense work, there have been three cases of a member defended by this Society where a verdict was awarded against the member. The total amount of such judgments is \$3960.00.

To repeat: Only three judgments have gone against members in seven years, and one of these is now on appeal; the total amount of damages was \$3960.00.

The Council makes no recommendation on this

subject, but presents to the House of Delegates two possible practicable plans:

1. That the assessment upon all members for at least two years be made not less than \$15.00, the total amount of 50% of this assessment to be set aside to create a fund to be used only for the payment of judgments against members, settlements of suits against members out of court, when it appears that in all probability there is no possibility of successfully defending such a suit.

2. Allow the present assessment to remain as \$6.00, and authorize the Council to invite 1000 or more members who wish to do so, to pay into a fund \$15 per year apiece for not less than two years, the interest on this fund to be used for increased amount which defending suits would cost, and the principal to be used for defraying judgments, settlements and the like in actions brought against such members as contributed to this fund. Under this suggestion, all members would be defended in any action for damages for alleged malpractice as at present under existing rules, but judgments, settlements and the like would only be paid for those members contributing to the fund.

Either of these plans would create at the end of two, or at most three years, a fund of from \$25,000 to \$45,000, which fund without any additions would take care of this feature of the work for many years to come. Upon its depletion at some time in the future, an additional assessment to replenish it could be levied. From the experience of the last seven years, however, it is probable, and the Council has every reason to believe it true, the fund would last without requiring an additional assessment for at least ten years.

The Council recommends that San Diego (Coronado) be the place of meeting next year.

REPORT OF THE COMMITTEE ON THE EFFECTS OF ATHLETICS ON PUPILS.*

The Medical Society of the State of California:

Mr. President and Fellow Members—Five years ago at the instance of Dr. Pottinger this society appointed a committee to investigate the effects of athletics as practiced in the universities and high schools. At that time the magazine literature of the country was awakening the public understanding to the dangers and abuses of competitive sports and your committee hoped to obtain accurate information and engage in personal investigation of the physical and mental effect of athletics as then practiced. In the pursuance of that intention a tentative scheme of work was agreed upon and has in part been carried out. That we have in no way realized our full program, has been due to various circumstances. It was soon realized that physical observations on a

scale capable of yielding reliable results involved an expenditure of money that was not at the disposal of this committee. Secondly, the death of one member and the prolonged indisposition of another reduced the working force. Thirdly, one of our most valuable members resides at such a distance from his fellows that frequent conferences were not possible. Notwithstanding these difficulties work has been done. On the physical side, the investigations of Dr. Kilgore on blood pressures under strain were published at the state society's meeting of 1912, and since then has appeared the report of Dr. D'Arcy Power dealing with the psychological effects of training and competitive sports. It is some testimony to the value of your committee's work that this latter report has been republished by the Department of Education of the National Government (United States Bureau of Education of 1914, No. 4).

In the years that have elapsed since this committee was appointed the attention of the public and educators has been strongly focused on the evils associated with competitive athletics with the result that your committee is of the opinion that the *raison d'être* for its continuance has ceased to exist. In making this the final report your committee would draw the attention of the society to a recent paper by Dr. W. T. Foster entitled an "Indictment of Inter-Collegiate Athletics," wherein he states that his conclusions are based on five years' personal observation of no less than 100 universities and colleges in 38 states, and sums up his conclusions by the statement that:

"The most obvious fact is that our system of inter-collegiate athletics after unbounded opportunity to show what it can do for the health, recreation and character of all our students has proved a failure and that inter-collegiate athletics provide a costly, injurious and excessive régime of physical training for the few students, specially those who need it least instead of an inexpensive, healthful and moderate exercise for all students, especially those who need it most."

This is almost identical with the conclusions reported to the society in this committee's second report.

(Signed) H. D'ARCY POWER.

SUMMER GRADUATE SCHOOL.

The medical faculty of Stanford University has arranged for a course of Summer Graduate Medical lectures lasting for six weeks, from July 6 to August 15. The courses are numerous and arranged so that any licensed physician may select such branches as he may wish to brush up on. All classes are limited in number and anyone interested had better correspond early with the Dean of Stanford Medical School, Sacramento and Webster streets, San Francisco, Calif.

* Read at the Forty-fifth Annual Meeting of the Medical Society of the State of California, Fresno, April, 1916.

MINUTES OF THE HOUSE OF DELEGATES, FORTY-FIFTH ANNUAL SESSION, FRESNO, APRIL 18 AND 19, 1916.

FIRST SESSION, APRIL 18, 1916, 8:30 P. M.

Meeting called to order by the President, Harry M. Sherman.

Roll call. The roll being called, 63 delegates were found to be present, and the President, Dr. Harry M. Sherman in the chair, declared that there was a quorum of delegates present and the House was ready for business.

Report of President was made verbally, and merely referred to the fact of his annual address which had been presented at the morning session, and which was referred to a Committee on Reports and New Business appointed by the President as follows:

Chairman, F. F. Gundrum, Sacramento; T. C. McCleave, Berkeley; Geo. E. Tucker, Riverside.

Report of Secretary and Editor was read and referred to the Reference Committee.

Report of the Council was read by the Chairman, C. G. Kenyon, and referred to the same committee.

Report of the Treasurer. There is no report of the Treasurer, as the report of the certified public accountants, being the audited accounts, is the report of the Treasurer.

STANDING COMMITTEES.

Advertising Committee. This Committee reported verbally by its Chairman, R. E. Bering.

Scientific Work. This Committee reported verbally by its Secretary, H. E. Alderson, who asked for suggestions for plans for the next program.

Public Policy and Legislation. The report of this Committee was read by its Chairman, George E. Tucker, at the morning session and was referred to the Reference Committee.

Committee of Arrangements. This Committee reported verbally by its Chairman, George H. Aiken.

SPECIAL COMMITTEE.

Report of the Special Committee on the Effect of Athletics upon School Pupils was presented at the morning session and is now referred to the Reference Committee. The Committee requested to be discharged.

NEW BUSINESS.

1. C. P. Thomas, Los Angeles, introduced the following, which was referred to the Reference Committee:

Gentlemen: I have been appointed a sub-committee of one by the Los Angeles County Medical Society to present here the matter of requesting a raise in the fee schedule of the different companies in this State writing workmen's liability insurance.

"(Resolutions passed by the Los Angeles County Medical Association on Thursday, January 20, 1916, and approved by the Board of Councilors on Monday, January 24, 1916.)

WHEREAS, It appears that the California State Compensation Fund, and the various private insurance companies giving industrial accident insurance, have been operating during the last several years at a very considerable profit so that refunders amounting to thousands of dollars have been given to policy-holders; and

WHEREAS, At the time the fee table of the State Compensation Fund was agreed to by the

Medical Society of California, it was stated by the officers of the State Compensation Fund that they recognized that these fees were low, and that if, after the Fund was firmly established in its business, it could be shown that these fees could be increased without detriment to the welfare of the State Industrial Commission or of the State Compensation Fund; and

WHEREAS, It would appear from the heavy refunders which have been given to policy-holders that the time has now come when it would be possible to compensate physicians and surgeons with fees more in keeping with the heavy responsibilities and work thrown upon them in connection with this Industrial Protection; now therefore be it

RESOLVED, That the Los Angeles County Medical Association herewith requests the Medical Society of the State of California, and the other county medical units of that organization, to give this matter their careful consideration, and to bring up the matter at the Fresno meeting of the State Society; and be it further

RESOLVED, That the Los Angeles County Medical Association, through a special sub-committee, take up this matter with the State Society and the other county medical units, and also with the State officials and the insurance companies to see whether it would not be possible to bring about a more equitable fee table than that which now exists."

It will be remembered that, two years ago when the present fee schedule of the State Fund and several insurance companies was being discussed by this Society at Santa Barbara, we were requested and urged by the companies to adopt this fee bill, with the understanding that if, after the experimental stage of these several companies in this new line was past, it was found to be too low, we might then expect an increase in the fee schedule.

I have obtained from what appears to be a reliable source the following facts, which should enable this Body to reach definite conclusions now as to whether or not we are entitled to that raise:

It appears that, during nine months of 1914 and all of 1915, after paying all claims and setting aside the necessary reserves for protection of the policy-holders, there accrued to the State Fund, which charged the same rates as the insurance companies, a net profit of \$243,505.20; that, during this period, they returned to the policy-holders 15 per cent., or \$180,425.67.

This would make a grand total in profits, after setting aside the above reserves, of \$423,930.87.

The records show that, during these two years, the State wrote 13 per cent. of the total amount of that kind of insurance in the State, which would give in profits for that business alone in the State the sum of \$3,261,006.69.

Now the State proposes to return to the policy-holders 25 per cent. more of the sums collected for policies. You will readily see then that this enormous profit has been made largely at the expense of the medical profession.

In consideration of these facts, I beg to submit the resolution to the House of Delegates to recommend that the State Industrial Accident Commission and the several insurance companies raise the scale of prices in their present surgical fee bill, at least the operation fee, 50 per cent.

I wish to add further, that the San Francisco Society will also introduce resolutions on this subject, it being left to the House as to what action to take.

J. H. Graves of San Francisco introduced the following, which was referred to the Reference Committee:

WHEREAS, The Medical Society of the State of California at its Santa Barbara meeting two years ago adopted a tentative Fee Bill for cases coming under the recently passed Workmen's Com-

pensation and Safety Act, without at that time having had an opportunity to carefully investigate and ascertain what a reasonable fee for such services should be; and

WHEREAS, It appears that the Social Insurance Commission appointed by the Governor of this State is investigating with the idea of enacting into a law some form of health insurance; and

WHEREAS, The future welfare of the Medical Profession is involved in these measures; now, therefore, be it

RESOLVED, That this Society hereby rescind its action in adopting the Fee Bill at Santa Barbara two years ago; and be it further

RESOLVED, That a committee from this Society be appointed to confer with said Industrial Accident Commission which has this work in hand in order that the interests of the Medical Profession be properly represented, said committee to report the result of its investigations and results at the next annual meeting of this society.

Dr. Mattison, Pasadena, introduced the following amendment to the Constitution which, under the Constitution, must be published twice in the Journal and come up for action at the next annual session:

Proposed Amendment to the Constitution of the Medical Society of the State of California. (See page 100 of the 1916 State Medical Directory.)

The amendment deals with the first sentence of Article VI of the Constitution, relating to officers, and omits two assistant secretaries, and adds three councilors-at-large, so that this sentence of Article VI will read as follows:

"Section 1. The officers of this Society shall be a President, a First Vice-President, a Second Vice-President, a Secretary, a Treasurer, Examiners or nominees for appointment as members of the Board of Medical Examiners, as may be required by the laws of the State of California governing the practice of medicine, and fifteen Councilors, of whom one shall be elected from each of the nine councilor districts, and six Councilors-at-Large."

The remainder of the Section and Article to remain as it now reads.

F. F. Gundrum, Sacramento, presented a letter referring to the ownership of X-ray plates, as follows:

2315 M Street, Sacramento, Cal., April 14, 1916.
To Dr. F. F. Gundrum, Secretary, Sacramento Society Medical Improvement, Inverness Building, Sacramento, Cal.

Dear Doctor Gundrum:

Pursuant to several conversations we have had at various times in the past regarding the ownership of Roentgenograms, I am writing you at this time to ask you if you can present the matter to the Directors of the Medical Society, and before the authorities of the State Medical Society, for adjustment.

I have had at various times controversies both verbal and written concerning this question. It seems to me that if an authoritative decision can be had much disagreement and no little unpleasantness can be disposed of.

There seems to be no general agreement in the matter.

It is conceivable that there might be three claimants for the possession of a Roentgenogram, each insisting that by virtue of right and justice he is the sole and true owner; first, the physician who sends the patient to the Roentgenologist; second, the patient who is being examined Roentgenologically; and third, the Roentgenologist who makes the Roentgenogram.

Let me state here that it is customary that when an X-ray is desired, the following procedure is followed:

The patient first consults the physician as to his

or her affliction, whereupon the physician makes an examination to determine the nature, the cause, and the extent of the affliction. In the course of the examination it may occur that the nature, the cause, the extent of the affliction, or all three, may not be obvious. The physician decides that an "X-ray" may serve to clear up in his mind what heretofore had been uncertain. He advises the patient accordingly, and sends the patient to a Roentgenologist. Here an examination is made by means of the Roentgen-ray, and either fluoroscopic or skiagraphic work or both is done. Thereupon a fee is collected by the Roentgenologist or his representative, and the patient returned to the physician. The physician then confers and consults with the Roentgenologist, who after study of the fluoroscopic or skiagraphic phenomena and deliberation thereupon has arrived at an opinion.

The various arguments with which I am familiar, in which one or other of these three parties make claim to the Roentgenogram, are briefly as follows:

The physician's claims:

The Roentgenogram is made at his direction.
It is made for him.
It is made for his use.
It is made of his patient.

The patient's claims:

It is made of him.
He pays for it.

The Roentgenologist's claims:

He makes it.
He uses it for his record.
He needs it for future comparisons.
He needs it for future study.
It is his instrument.

The patient does not pay for it, but does pay for his study, deliberation, and opinion.
It is of no value to anyone but to him.

The following has been by opinion and is based upon the opinions of prominent Roentgenologists who have written on the matter both in this country and abroad:

That the Roentgenologist stands as a consultant in the same relation as an expert or specialist of one or another medical branch to the physician sending the patient.

That the Roentgenologist is and should be a professional medical man who has made an especial study of the examination of the human body by means of the Roentgen-ray.

That when the patient is under the care, advice, and treatment of the Roentgenologist, as such, the patient is the patient of the Roentgenologist as well as of the physician.

That the making of a Roentgenogram in the examination of a patient is a means to an end—to wit, his opinion—and therefore incidental, and comparable to the making of a pulse-tracing, or a written notation of symptoms and signs in a particular case, or the original written report of a laboratory finding, etc.

That the Roentgenologist only is capable of correctly interpreting the significance of the various phenomena, and that in other hands error might be made and disaster result.

That if it is conceded that the Roentgenogram has simply been bought by the patient for the physician's use, there is an indirect and implicit imputation that the function of the Roentgenologist is entirely mechanical and not professional, because such a view would indicate that the Roentgenologist has completed his work when he has exposed, developed and dried the sensitized plate, and such occupation is entirely mechanical.

That if the Roentgenogram has been removed from the possession of the Roentgenologist, the latter in the event of a future examination is handicapped for the want of an accurate record for comparison.

That the written report of the Roentgenologist

made from the study of the Roentgenogram is sufficient for the ordinary needs of the physician; but in extraordinary event, the Roentgenogram can be loaned, or prints can be made and given the physician.

That the above opinions constitute the basis for the custom followed by the majority of Roentgenologists.

That generally speaking these opinions are conceded by the majority of reasonable physicians, by all accident insurance companies (except some of the lately organized industrial accident insurance companies).

I shall be indeed grateful to you for your effort in bringing these matters to the attention of the various above named organizations.

I am very truly,

A. B. DIEPENBROCK.

Dr. Clarence Moore of Los Angeles introduced the following resolution:

RESOLVED, That the House of Delegates request the Reference Committee on Reports and New Business to present a resolution with recommendations on the subject of regulating the granting of charters to medical schools.

Dr. Philip K. Brown introduced the following resolution:

RESOLVED, That the House of Delegates recommend to the Board of Councilors that Santa Barbara be selected as the place of the 1917 meeting and that the Hotel Potter be made the headquarters.

Dr. E. N. Ewer of Oakland introduced the following resolution:

The undersigned members of the Society feel that the subjects of Obstetrics and Gynecology have been neglected in the scientific programs (there having been no papers on obstetric matters and few in Gynecology in many years). As it seems impossible to secure adequate consideration of these important subjects in the programs of the general sessions, it is deemed advisable to provide for them in a separate section.

Edward N. Ewer,
Alfred Baker Spalding,
A. P. Newman,
Frank W. Lynch,
J. Craig Neel,
Frank R. Girard,
Dudley Smith.

Dr. Phillips of Santa Cruz extended an invitation to the Society to hold its next annual meeting in Santa Cruz.

Dr. Lockwood of Los Angeles asked some questions in regard to the Register and Directory, and the loss incurred by its publication. No resolution and no action.

Dr. Rene Bine spoke on the subject of social insurance.

Dr. Philip K. Brown introduced the following resolution:

RESOLVED, That the Council of the Medical Society of the State of California is hereby requested to give such assistance as they shall deem necessary to the California Society for the Promotion of Medical Research in order to make its work effective; be it further

RESOLVED, That the Secretary of the Society shall by written communications ask the component

county societies to render such assistance as shall be requested of them.

The following communications were presented by the Secretary:

Social Insurance Commission of California.
525 Market St., San Francisco.

March 28, 1916.

Dr. Philip Mills Jones, Secretary, Medical Society of the State of California, Butler Bldg., San Francisco.

My dear Dr. Jones:

The State of California has created the Social Insurance Commission to make a study of the social insurance theory, to examine the European experiments with this theory and to make a careful survey of California conditions with the end in view of advising the legislature as to the necessity and practicability of extending the field of social insurance which the state has already initiated in its Workmen's Compensation Act.

The commission is centering its first efforts upon sickness insurance and hopes to return an adequate report on this topic. The co-operation and counsel of the Medical Association will do much to make it possible for the commission to render a report of real value. To this end, therefore, we request that the Medical Association appoint a committee to confer with the Social Insurance Commission.

Trusting that the Medical Association will find it possible to render this assistance, I am,

Very sincerely yours,

BARBARA NACHTRIEB,

Secretary.

Fresno, April 18, 1916.

To the Board of Councilors, Medical Society of the State of California.

Gentlemen:

The San Diego County Medical Society, in extending its invitation to the State Society to hold the 1917 meeting in San Diego, has in mind and stipulates, the State Society being willing, that the sessions and headquarters shall be at the Hotel Coronado.

JOHN C. YATES,

President, San Diego County Medical Society.

There being no further new business, the minutes of the First Session were read and approved as read, whereupon the House adjourned.

SECOND SESSION APRIL 19.

Meeting called to order by the President at 8:30 p. m. Roll call disclosed the presence of 51 delegates. The President announced a quorum and the House ready for business. A considerable number of delegates came in subsequently during the session.

Place of Meeting. The President announced that the Council reported that San Diego had been selected as the place of meeting for 1917.

ELECTION OF OFFICERS.

President. George H. Kress of Los Angeles was nominated by John C. King of Banning. There being no other nominations, on motion the nominations were closed and the Secretary instructed to cast the ballot. George H. Kress was declared duly elected for the ensuing year.

There was no contest in the election of any of the following officers, and in each case the motion prevailed unanimously that the nominations close and the Secretary cast the ballot, with the exception of the election for Secretary, in which case the motion was that the nominations close and the President cast the ballot.

First Vice-President. L. R. Willson, Fresno.

Second Vice-President. John C. Yates, San Diego.

Secretary. Philip Mills Jones, San Francisco.

Councilors. First District, term expires 1918, C. Van Zwahlenburg of Riverside.

Second District, term expires 1919, Clarence Moore of Los Angeles.

Third District, term expires 1918, T. C. Edwards, Salinas.

Fourth District, term expires 1918, George H. Aiken, Fresno.

Sixth District, term expires 1919, C. G. Kenyon, San Francisco.

Eighth District, term expires 1919, James H. Parkinson, Sacramento.

At Large, term expires 1919, O. D. Hamlin, Oakland.

At Large, term expires 1918, H. A. L. Ryf-kogel, San Francisco.

Committee on Scientific Work.

Term expires 1918, Fitch C. E. Mattison, Pasadena.

Term expires 1919, R. A. Peers, Colfax.

Committee on Public Policy and Legislation.

Term expires 1917, George E. Tucker, Riverside, Chairman.

Term expires 1918, William LeMoyné Wills, Los Angeles; F. F. Gundrum, Sacramento; Ray L. Wilbur, Palo Alto.

Term expires 1919, H. G. Thomas, Oakland; F. B. Carpenter, San Francisco.

Committee on Arrangements. On motion, duly seconded and carried, the appointment of this Committee was left to the Council.

Committee on Public Health. The following were elected:

Percy T. Phillips, Santa Cruz.

C. C. Browning, Los Angeles.

John C. King, Banning.

W. A. Sawyer, Sacramento.

N. K. Foster, Oakland

Delegates to the A. M. A.:

For two years: H. Bert Ellis, Los Angeles; O. D. Hamlin, Oakland.

For one year: Victor G. Vecki, San Francisco; H. P. Newman, San Diego.

Alternates to the A. M. A.:

For one year: W. H. Irwin, Oakland; H. H. Sherk, Pasadena; F. M. Pottenger, Monrovia; W. F. Schaller, San Francisco.

REPORT OF THE REFERENCE COMMITTEE.

The following report of the Reference Committee was presented by the Chairman, Dr. F. F. Gundrum, and, after having been read in full, on motion of Parkinson, duly seconded and carried, the report was received and the House proceeded to consider the sections *seriatim*.

Your Reference Committee begs leave to report as follows:

1. *Report of President.* Your Committee realizes that the changes outlined in this communication are of so fundamental a character that it exceeds the authority of this Committee to act upon. The matter should be taken up by the Council and no doubt would require an amendment to the constitution, which matter would of

course be put off for one year from date. (Carried as read.)

2. *Report of Secretary.* Your Committee recommends that the report of the Secretary be accepted and filed. (Carried.)

3. *Report of Council.* Your Committee recommends that the report of the Council be accepted and placed on file. The portion of this report concerning which action by the Society is necessary, is taken up at a later time and in connection with other resolutions bearing upon the same subjects. (*Vide infra.*) (Carried.)

4. *Report of Advertising Committee.* Your Committee approves the attitude of the Committee on Advertising and urges all the members of the Society to assist in every way possible to procure advertisers for the Journal. (Carried.)

5. *Report of Committee on Scientific Work.* This Committee has offered their recommendation concerning the work of the Committee on Scientific Program.

6. *Report of Committee on Arrangements Representing Fresno County Medical Society.* Your Committee recommends that this Society give a vote of thanks to the members of this Committee for their hospitality, and for the many courtesies extended to the State Society during this meeting. (Carried.)

7. *Concerning the Assessment for 1917.* Your Committee recommends that the House of Delegates vote an assessment of \$6.00 per member for the ensuing year. (Carried.)

8. Deleted by the Committee.

9. *Concerning the California Society for the Promotion of Medical Research.* Your Committee recommends that the following resolution be adopted:

RESOLVED, That the Council of the Medical Society of the State of California is hereby requested to give such assistance as they shall deem necessary to the California Society for the Promotion of Medical Research in order to make its work effective; be it further

RESOLVED, That the Secretary of this Society shall by written communication ask the component county societies to grant such assistance as shall be requested of them. (Carried.)

10. *Concerning Separate Section on Gynecology and Obstetrics.* The Committee recommends that inasmuch as there seems to be considerable difficulty in finding space for accommodating all the scientific papers of interest that are offered for each meeting, the Council is hereby urged to investigate the question of division of the meeting into one or more additional and appropriate sections. (Carried.)

11. *Concerning X-Ray Plates.* Whereas this question presents many legal phases, and whereas there has been to the knowledge of your Committee no court decision affecting this matter, we recommend that the subject be referred to the Council for an adjustment of the matter if possible, but in the meantime we advise the taking of two exposures in cases which may become of medico-legal interest later. (Carried)

12. *Concerning the Preparation of a Resolution Concerning the Granting of Charters to*

Medical Colleges. Your Committee recommends the adoption of a resolution endorsing the following proposed act:

There is hereby established a standing committee of four members who shall be respectively the Secretary of the State Board of Medical Examiners, the State Superintendent of Public Instruction, the Dean of the Faculties of the University of California and the Dean of the Medical Department of the University of California, for the following purposes, to wit: When an application shall have been made to the Secretary of State of California for a charter, license, or permit to establish a medical school or any institution to teach the healing art, the said Secretary of State shall require from the applicant or applicants a full statement in affidavit form of the equipment of the proposed school. He shall submit this data to the above described committee and shall not issue said charter, license, or permit until after he shall have received a formal approval of the equipment of the proposed school from the said committee. In this resolution the word equipment shall be understood to include moneys, endowments, lands, or funds of any kind, buildings, books, laboratory and other apparatus to be used in connection with teaching, teachers, instructors, hospital facilities, and any and all other aids to the instruction of students of the healing art. (Carried.)

13. *Concerning the Appointment of a Committee to Confer with the State Social Insurance Commission.* Your Committee recommends that there be appointed by the incoming President, a committee of not less than five members to confer with the State Social Insurance Commission. (Carried.)

14. *Concerning Medical Defense.* Your Committee recommends that the present system of defending malpractice shall be continued. The report of the Secretary and the Council covering the seven years past, during which time this system has been in operation, indicate the increasing value to the members of this Society. We believe that under no circumstances would the Society be willing to abandon this activity. However, many members feel that this safety is incomplete when no provision to pay a possible judgment is provided and many members carry indemnity policies at a considerable annual expense. We believe by the outlay of a small amount that in two or three years a fund could be accumulated, the interest of which would suffice to pay any probable judgment against our members, thus relieving us of continued payment of annual premiums in indemnity policies. (We, therefore, recommend that the Council establish a fund to be used for the purpose of paying judgment against members participating in the accumulation of this fund. Such participation is to be voluntary and the fund is to be derived from subscriptions of \$15.00 per annum for two years from each member who indicates his desire to participate in the benefit of this fund. Should an insufficient number of members indicate a desire to establish such a fund in this way, any

money collected for this purpose shall be returned to the subscriber.)

We, therefore, recommend that this matter be referred to the Council with instructions to take such action as it deems proper in the premises.

On motion of Parkinson, duly seconded and carried, the matter in paragraph 14 which is enclosed in parentheses was struck out, and the following substituted: "We recommend that this matter be left to the Council with instructions to take such action as it deems proper in the premises."

15. *Concerning Those Resolutions that Affect the Operation of the Workmen's Compensation Law.* There were several resolutions offered upon the subject. After due consideration of the various subject matter brought before your Committee, we recommend that the President appoint a committee of not less than five for the purpose of collecting all available information upon this subject and preparing this information for presentation to the House of Delegates at the annual meeting for 1917.

We recommend that no change in the present status be made until such time as the House of Delegates shall be in possession of information which will be supplied by the above mentioned committee.

Respectfully submitted.

F. F. Gundrum, Chairman,
T. C. McCleave,
Geo. E. Tucker.

The report as a whole was then adopted.

NEW BUSINESS.

Dr. Parkinson requested the unanimous consent of the House to introduce the following resolution. Consent having been given, it was introduced and passed by the House.

BE IT RESOLVED, That this body endorses the Keating-Owen bill prohibiting interstate traffic in the products of child labor, and hereby authorizes the President of the Medical Society of the State of California to use all the influence of the Society in the furtherance of this bill.

There being no further business, the minutes of the Second Session were read and approved as read, and the House adjourned *sine die*.

PHILIP MILLS JONES, Secretary.

FRESNO MEETING—THOSE REGISTERED. APRIL 18, 19, 20, 1916.

Adams, L. P., Alameda; Aiken, G. H., Fresno; Alderson, H. E., San Francisco; Alvarez, W. C., San Francisco; Anderson, A. E., Fresno; Anderson, C. W., Los Angeles; Armstrong, J. M., Los Angeles; Arnold, D. E., Fresno; Avery, N. E., Los Angeles.

Baldwin, W. I., San Francisco; Ball, C. D., Orange; Barbat, J. H., San Francisco; Barkan, H., San Francisco; Barnett, G. D., San Francisco; Barnhart, W., Los Angeles; Barrett, G. M., San Francisco; Beasley, S. O., San Francisco; Beerman, W. F., San Francisco; Benedict, W. L., Fresno; Bering, R. E., San Francisco; Bine, R., San Francisco; Birch, F. W., San Francisco; Black, S. P., Los Angeles; Blackedge, L. N., Tulare; Blair, J. C., Santa Clara; Blake, W. F., San Francisco; Blodgett, T. D., Tulare; Blum, S., San Francisco; Bogle, S. S., San Francisco; Bonyng, C. W., Los Angeles; Bowles, F. H.,

Alameda; Bowman, W. B., Los Angeles; Boyd, W. T., Fresno; Brem, W., Los Angeles; Briggs, G. A., Sacramento; Brinckerhoff, E. E., Alameda; Brown, A., San Francisco; Brown, J. M., Los Angeles; Brown, P. K., San Francisco; Browning, C. C., Los Angeles; Browning, F. W., Alameda; Brunn, H., San Francisco; Bullock, C. T., Sonoma; Bullock, N. P., Santa Clara; Bunnell, S., San Francisco; Burks, F. L. R., Fresno; Butin, M. R., Madera; Byars, A. H., San Diego.

Campbell, F. McL., Mendocino; Campbell, W. H., Santa Barbara; Campiche, P. S., San Francisco; Carpenter, F. B., San Francisco; Catton, J. H., San Francisco; Cecil, A. B., Los Angeles; Chaffin, R. C., Los Angeles; Chiappella, J. O., Butte; Chipman, E. D., San Francisco; Church, B. F., San Bernardino; Clark, W. A., Alameda; Coffey, W. B., San Francisco; Collins, C. D., Fresno; Cooke, A. B., Los Angeles; Copeland, J. A., Kern; Coppedge, W. E., Modoc; Couey, E. J., Fresno; Craig, W. H., San Bernardino; Cross, W. W., Fresno; Craycroft, H. J., Fresno; Cummings, R. S., Los Angeles; Cuttle, F., Kings.

Dameron, J. D., San Joaquin; Davis, B., Merced; Dawson, W. J. G., Sonoma; Dettling, F. E., Los Angeles; Dillingham, F. S., Los Angeles; Dixon, R. E., Kings; Dolan, P. E., Alameda; Dowling, S. W., San Benito; Dudley, W. H., Los Angeles; Dungan, J. F., Tulare.

Ebright, G. E., San Francisco; Edwards, T. C., Monterey; Ellis, H. B., Los Angeles; Ely, L. W., San Francisco; Enloe, N. T., Butte; Enos, M. M., Alameda; Evans, G. H., San Francisco; Eveleth, R. H., Placer; Ewer, E. N., Alameda.

Farmer, L. E., Sacramento; Fish, C. W., Los Angeles; Fishbaugh, E. C., Los Angeles; Fisher, A. L., San Francisco; Fisher, J. T., Los Angeles; Fleischner, E. C., San Francisco; Fleming, L. P., Fresno; Foster, E. C., Kings; Franklin, W. S., San Francisco; Fredrick, M. W., San Francisco; Frick, D. J., Los Angeles; Fry, P. B., Solano; Fuller, R. N., Tulare.

Gatchell, E. F., Butte; Geiger, J. C., Alameda; Gibbons, M. R., San Francisco; Gilbert, W. H., Los Angeles; Gillespie, J. A., Fresno; Girard, F. R., San Francisco; Glaser, E. F., San Francisco; Goodman, Minerva, San Joaquin; Gould, N. B., San Joaquin; Graham, H. B., San Francisco; Graves, J. H., San Francisco; Green, A. S., San Francisco; Griffin, C. F., San Francisco; Grosse, A. B., San Francisco; Gundrum, F. F., Sacramento.

Hablutzel, C. E., Santa Clara; Hagadorn, J. L., Los Angeles; Hamlin, O. D., Alameda; Hanlon, E. W., San Francisco; Hare, C. B., Santa Clara; Hare, G. A., Fresno; Hare, J. D., Fresno; Harry, C. R., San Joaquin; Hastreiter, R. F., Los Angeles; Helms, G. L., Siskiyou; Henderson, A. M., Sacramento; Hilliard, C. G., San Bernardino; Hinman, F., San Francisco; Hoag, C. L., San Francisco; Horn, H., San Francisco; Hoisholt, A. W., Napa; Hopkins, H. H., Fresno; Hosmer, C. M., San Diego; Howard, H. W., Portland, Oregon; Howard, J. L., San Francisco; Howe, L. P., San Francisco; Huggins, W. L., Los Angeles; Hughes, A. L. B., Tulare; Hulén, V. H., San Francisco; Hull, J. P., Kern; Hunt, R. H., Lake; Hunter, G. G., Los Angeles; Huntington, T. W., San Francisco; Hutchison, C. W., Fresno.

Inman, T. F., San Francisco.

Jablons, B., San Francisco; Jackson, J. A., Los Angeles; Jacobson, P. N., Stanislaus; Johnson, E., San Francisco; Johnson, P. V. K., Los Angeles; Johnston, H. A., Orange; Jones, C. B., Sacramento; Jones, E., Los Angeles; Jones, P. M., San Francisco; Jones, R. M., Fresno; Jordan, P. A., Santa Clara; Jorgensen, N., Fresno; Judell, M. I., San Francisco.

Kelly, A. S., Alameda; Kenyon, C. G., San Francisco; Kerr, W. W., San Francisco; Kiefer, H. A., Los Angeles; Kiger, W. H., Los Angeles; King, J. C., Riverside; King, M. M., Los Angeles;

Kjaerbye, C. P., Fresno; Kress, G. H., Los Angeles; Krotoszyner, M., San Francisco; Kyle, J. J., Los Angeles.

Lamkin, B. B., Fresno; Langnecker, H. L., San Francisco; Lewis, W. M., Los Angeles; Lilly, W. E., Merced; Lippman, C. W., San Francisco; Lipson, I. M., Tulare; Lockwood, C. D., Los Angeles; Long, S. M., Fresno; Loper, A. N., Tulare; Lucas, W. T., Santa Barbara; Lynch, F. W., San Francisco.

MacGowan, G., Los Angeles; Mack, C. W., Alameda; Madden, T. F., Fresno; Malsbary, G. E., Los Angeles; Manson, G., Fresno; Marsh, O. G., San Diego; Martin, H. R., Riverside; Mathewson, C., Fresno; Matson, R. C., Portland, Ore.; Mattison, F. C. E., Los Angeles; Mays, A. H., Marin; McChesney, G. J., San Francisco; McCleave, T. C., Alameda; McClenahan, H. C., San Francisco; McConnell, A. B., Fresno; McCoy, T. J., Los Angeles; McCullough, F. E., Placer; McKenney, J. H., Fresno; McLean, A. D., Tulare; McNaught, H., San Francisco; Mehrtens, H. G., San Francisco; Melvin, J. T., Tulare; Meux, T. R., Fresno; Miller, A., Tulare; Miller, F. W., Los Angeles; Miller, R. W., Los Angeles; Miller, W. P., Fresno; Milton, J. L., Alameda; Mitchell, C. O., Fowler; Moffitt, H. C., San Francisco; Molony, M., San Francisco; Molony, W. R., Los Angeles; Montgomery, J., Grand Forks, North Dakota; Moore, E. C., Los Angeles; Moore, H. S., San Francisco; Moore, R., Los Angeles; Morgan, J. D., Jr., Fresno; Morton, A. W., San Francisco; Moseley, G. G., San Bernardino; Moulton, D. H., Butte; Mudd, J. L., Merced.

Naffziger, H. C., San Francisco; Neel, J. C., San Francisco; Nelson, C. F., Los Angeles; Nelson, J. E., San Joaquin; Newell, E., Santa Clara; Newman, H. P., San Diego; Nicholson, A. R., Fresno; Nicholson, J. W., Tulare.

O'Brien, J. T., Sonoma; O'Connor, R., Alameda; Offield, A. L., San Mateo; Oliver, H. R., San Francisco; O'Neill, A. A., San Francisco.

Painter, G. L., San Francisco; Paine, J. C., Tulare; Parker, A. S., San Bernardino; Parker, T. A., San Diego; Parkinson, J. H., Sacramento; Peers, R. A., Placer; Peery, J. T., Kings; Peterson, A., Los Angeles; Pettis, J. H., Fresno; Phillips, L. E., Santa Clara; Phillips, P. T., Santa Cruz; Phillips, W. A., Santa Cruz; Pickett, J. C., San Francisco; Pierce, A. T., Alameda; Pinniger, S. E. D., San Joaquin; Pischel, K., San Francisco; Plymire, D. B., San Francisco; Pollock, R., San Diego; Pond, H. M., Alameda; Pottenger, F. M., Los Angeles; Powell, B. J., San Joaquin; Powell, D., Yuba; Power, H. D'A., San Francisco; Powers, L. M., Los Angeles; Preston, A. Q., Tulare; Pringle, J. T., Tulare.

Ransom, D. H., Madera; Reamer, E. F., Stanislaus; Reardan, F. B., Merced; Rehfish, J. M., Alameda; Reinle, G. G., Alameda; Reynolds, F. W., Los Angeles; Richardson, W. W., Los Angeles; Rigdon, R. L., San Francisco; Rinkenberger, F. W., Los Angeles; Rinker, C. L. A., Madera; Rixford, E., San Francisco; Rogers, A. R., Los Angeles; Rogers, F. L., Los Angeles; Rogers, T. L., Los Angeles; Rosenkranz, H. A., Los Angeles; Roth, L. J., Los Angeles; Rowell, H. N., Alameda; Rude, A. E., San Francisco; Ruggles, H. E., San Francisco; Ryfkogel, H. A. L., San Francisco.

Sawyer, W. A., Sacramento; Schaller, W. F., San Francisco; Schmall, E., San Francisco; Schottstaedt, W. R., Fresno; Schwuchow, W. B., Los Angeles; Sewall, E. C., San Francisco; Sharp, J. G., San Francisco; Sherkh, H. H., Los Angeles; Sherman, H. M., San Francisco; Shook, F. M., Alameda; Shulman, L., Los Angeles; Simpson, W., Santa Clara; Skoonberg, A. E., Fresno; Sleeper, K. R., Los Angeles; Smith, D., Alameda; Smith, T. D., Fresno; Smyth, M. H., San Joaquin; Smythe, H., San Joaquin; Soiland, A., Los Angeles; Spalding, A. B., San Francisco; Speed, E. S., Fresno;

Staniford, K. J., Fresno; Steinwand, O. W., Fresno; Stevens, W. E., San Francisco; Stillman, S., San Francisco; Stoddard, T. A., San Francisco; Stover, W. M., San Luis Obispo; Strickmann, W. H., Alameda; Strong, D. C., San Bernardino; Sullivan, J. F., San Francisco; Surryhne, B. F., Stanislaus; Sweeney, A. H., Fresno; Sweet, E., Los Angeles; Sweet, R. B., Los Angeles.

Tait, D., San Francisco; Taltavall, W. A., San Bernardino; Taubles, G. H., San Francisco; Terry, W. I., San Francisco; Thomas, C. P., Los Angeles; Thomas, H. G., Alameda; Thompson, G. E., Fresno; Tourtillott, W. W., Tulare; Trowbridge, D. H., Fresno; Tucker, G. E., Riverside; Tupper, R. B., San Francisco; Twitchell, E. W., Sacramento.

Van Nuys, R. G., Alameda; Van Zwaluwenburg, C., Riverside; Vecki, V. G., San Francisco; Victors, E., San Francisco; Von Adelung, E., Alameda; Voorsanger, W. C., San Francisco; Walker, G. W., San Joaquin; Walker, J. R., Fresno; Walters, P. R., Tulare; Ward, M. W., Yolo; Warmer, C. A., San Bernardino; Welty, C. F., San Francisco; White, C. M., Tulare; Whitten, W. D., San Diego; Wiley, E. H., Los Angeles; Williams, E. H., San Francisco; Williams, R., Los Angeles; Wills, C. A., Alameda; Wills, W. LeM., Los Angeles; Willson, L. R., Fresno; Wintermute, G. P., San Francisco; Witherbee, O. O., Los Angeles; Wolfsohn, J. M., San Francisco.

Yates, J. C., San Diego.

Zeiler, A. H., Los Angeles.

NOTICE!

IMPORTANT!

NEXT MONTH'S JOURNAL

WILL

CONTAIN

A

MOST

IMPORTANT

ANNOUNCEMENT

RELATING

TO

MEDICAL DEFENSE

INDEMNITY

THE CONSERVATION OF VISION.*

By GEORGE H. KRESS, M. D., Los Angeles; Chairman of the Conservation of Vision Committee of the Medical Society of the State of California.

Blindness, partial or complete, can seriously handicap a fellow being throughout life, subjecting him not alone to physical misery, but oftentimes also to economic retrogression or relegation. The campaign for the conservation of vision is, therefore, becoming more and more the recipient of serious attention and action by the medical profession, the laity, and the officials of our city, State and national governments.

It may be said that only in recent years has the economic loss accruing from partial or complete blindness really begun to dawn upon us; but in the brief period during which the conservation of vision campaign has been on, the facts and figures which have been gathered are so conclusive and illuminating that there can be no longer any doubt existent as to necessity of action. The proposition now before us is one of methods to be adopted, and of securing the wherewithal with which to put them into force.

For convenience in the discussion of our subject, it will be here dealt with under the three heads of:

1. *Refractive Errors*, or defects of vision, which should be attacked and corrected, if possible, during school age;

2. *Diseases of the Eyes*, which are apt to lead to blindness, with all the economic and personal horror which the word blindness implies, the particular disease here to be discussed being that of gonorrhea; and

3. *Injuries to the Eyes*, the group of shop accidents being here especially referred to.

I. REFRACTIVE ERRORS.

Returning now to the first major group of eye defects just enumerated, namely of refractive errors, particularly those of school children, we are at once confronted with the fact that about seventy per cent. of all school children have physical defects of some type, and that these physical defects of various kinds seriously handicap these children in their physical and mental growth; and that resulting therefrom there is an increased expenditure by the State to give such backward children their education, as well as the other fact that such backward children fall to or take a lower place on the social or economic scale, in case these defects be not remedied, than would otherwise be the case.

The above state of affairs being true, we are, therefore, brought face to face at once with the fact that physical defects of the race have a most important relationship, not only to the happiness and prosperity of individual citizens, but to the welfare of the nation as a whole.

But unfortunately, just as in the case of some of the infectious diseases like tuberculosis, many of those who are already afflicted with defects of vision can have comparatively little done for them; so that the problem in preventive medicine which here confronts us in our conservation of vision campaign is one that must especially aim to reach

* Read before the Eighth Congress of the American School Hygiene Association, Saturday, June 26, 1915, San Francisco, Cal.

the rising generation of Americans, in order that both the causes and consequences of defective vision may be prevented from coming into being.

With about one-fifth of our population of school age (which means in the United States a population of about twenty million school children), and about fifteen million of these children suffering from physical defects of one kind or another, it has been estimated that one-fourth of these millions of school children, namely, about five million of our school children, belong to the group who have defects of vision of one type or another.

Now our schools are estimated to cost about five hundred million dollars per year for maintenance, and granting that backward children who do not advance mentally as they should, mean an increased outlay of money, inasmuch as they require more teachers, and also hold back the classes as a whole, then it follows that with one-fourth of our school children having defects of vision, a considerable portion of this five hundred million dollars annually spent on their education, is not giving the best of results.

In other words, through non-attention to these defects of vision, there is annually spent on the education of these children, much more money than the prevention or cure of these defects would cost.

And that is the particular thought which we must emphasize with our boards of education and other officials of the State, and with the laity whose interest and co-operation we would have in the solution of this problem.

We must show these lay officials and fellow citizens by actual facts and figures, that they are wasting much money and throwing many dollars away, when they refuse to remedy physical defects of school children, if we would secure their full co-operation and assistance in bringing into existence a better state of affairs.

Once the economic waste of foolishly expended public moneys reaches the consciousness of the great mass of taxpayers, it will be time enough to accentuate somewhat the individual misery accumulated in the lives of those who are unnecessarily condemned to actual or partial, or what might be called economic blindness, and their correlated train of pinched or straitened financial circumstances, with existence, in many cases, on an undeserved lower social and economic plane.

Or, again, putting the thought in different language, altruistic doctrines along this line will receive a fuller support if our taxpaying fellow citizens realize that taxes will be reduced or conserved, at the same time that vision, for instance, is conserved.

Of the five hundred million dollars annually spent for the education of our school children, it is estimated that about one hundred million dollars annually (or about one-fifth of the total spent) is expended on about three million children (threetwentieths of all school children) who have physical defects sufficiently grave to cause them to fall behind in their studies, and who are known as "repeaters." The unfortunate influence of these backward children on their fellow pupils who could make a more rapid mental advance, and the sad results of these defects upon the whole after-lives

of these unfortunate child victims themselves, are altogether too great and too sad to be lightly passed over.

Such a sum of one hundred million dollars, now spent on these defective children, could be far more wisely expended, if it were concentrated on the eradication and prevention of the physical defects responsible for the tardy progress of so many of our school children.

In discussing this elimination of physical defects among our school children, we must at the outset, recognize how closely this work of eradication is related to the medical inspection of school children. We should appreciate also that this medical inspection should not limit itself alone to the children, but should include also the school house environments, in which the children spend so many of their hours of youth. With school houses properly constructed, from the standpoint of sanitation, and the children instructed concerning the hygienic principles involved and applied, one may expect to carry to and help put into effect in the homes of the children, the principles involved in house and personal hygiene. And even if this be not always possible, because of the stubbornness or ignorance of the adult members of the family group, there is still the hope and possibility that these children, when coming into homes of their own, will later apply the principles learned during their school years.

Hygienically constructed school buildings, with special attention to good ventilation, proper lighting arrangements, suitable grouping of blackboards, kinds and height of desks, as well as properly balanced curricula, are some of the factors to be noted in connection with the above.

To get good air and light into a school building implies that adjacent buildings must not be too close (that is, should be a distance of about twice their height away from adjacent school buildings), and the space so cleared can serve a further good purpose as a school playground.

Roughly calculated, a school room should have about fifteen square feet of floor space and about one hundred cubic feet of air space per pupil.

Light should come preferably from the rear and from the left of the pupils, and the window space should ordinarily be at least fifteen or twenty per cent. of the floor space. Windows should have transoms above for ventilation, practically flush with the ceilings, and in large cities where because of property values or the atmospheric conditions, it is not possible to get as good light as usual, recourse may be had to use of some of the so-called prism glasses, or to artificial lighting of the indirect type, although neither of these latter plans is to be especially advocated. The tinting of the walls with the lighter colors of green and gray, for instance, also helps. Blackboards of unglazed surface should be placed away from the source of light.

The above are all matters closely related to the comfort, the health, and therefore also to the mental development of school children; and all medical inspection should include the systematic observation and report on the above and related

factors, in addition to the regular work of inspection of the school children themselves.

It is most gratifying to all who are interested in the proper development of our race, to note the great progress made in medical inspection in schools since its advent as an official movement in France about 1884, and in our own country since its beginning in New York City in 1892, about twenty-three years ago.

The splendid results accomplished during this brief period may be taken as an index of what the future holds in store, not only for our schools, but for our nation.

It should be remembered that phases of this so-called medical inspection work have become so well developed that school nurses can be taught to do effective service where physicians cannot be employed, and that where even school nurses are not available, a little time given by the teachers themselves can give most effective returns.

It has been shown, for instance, that the expense of the examination for defects of eyes, ear, nose and throat, if done by teachers, need not cost a city of 10,000 persons, a greater sum than twenty dollars for its entire school population. Surely, twenty dollars is not an excessive sum to ask in a city of 10,000 persons to spend in an effort to learn what children of those citizens have physical defects worthy of attention and eradication.

The great importance of defects of vision, especially when of considerable degree, lies in the fact that such children fall behind in their classes, grow out of touch with their school work, learn to dislike or hate it, and then drop out of school to plunge into occupational activity for which they are ill-fitted, and because of which mental immaturity they handicap their entire economic and social future; or if they start their career in truancy, drift, perhaps, into the sad group of the vicious or even of the criminal.

As to the examinations of children's eyes, the chart devised by Dr. Frank Allport of Chicago, Chairman of the Conservation of Vision Committee of the American Medical Association, is a simple and yet very effective type, and especially where the work is to be done by a school nurse or a teacher. These splendid charts may be obtained from F. A. Hardy and Company, Chicago, Illinois, at a price of twenty-five cents each for a single copy, or of seven cents each in lots of more than ten.

The questions which are asked concerning vision, in this chart, and which show how simple is the information required to demonstrate the presence of most defects of vision, are the following:

1. Does the pupil habitually suffer from inflamed lids or eyes?
2. Does the pupil fail to read a majority of the letters of the number 20 line of Snellin's Test Types (printed on the chart) with either eye?
3. Do the pupil's eyes and head habitually grow weary and painful after study?
4. Does the pupil appear to be cross-eyed?

The above simple questions and tests practically determine a defect of the eyes or of vision, and the child is then to be sent to a specialist or to an eye clinic where a thorough examination may be made,

with the eyes, if necessary, under the influence of a cycloplegic, and the proper glasses, if needed, ordered, or other defects remedied.

A sample of the Allport Chart, which is passed around, gives a further insight into its scope.

2. DISEASES OF THE EYES.

Turning now to the second major topic or group of eye defects to be considered in our outline, we are confronted with the venereal disease known as gonorrhea, which, when it attacks the infant, is known by the more familiar name of ophthalmia neonatorum.

The horror of this disease is its virulence and the intensity of the inflammatory process which it calls into being, so that when an eye is so attacked, it is, even under the best of treatment, always in danger of being destroyed.

It is estimated that this disease is responsible for from fifteen to twenty-five per cent. of all the blind persons in our country.

Leaving out of account the horror of the darkness in which these unfortunate persons must dwell, we are here also confronted with a splendid example of economic waste.

Thus, as regards education, the State usually must annually pay about ten times as much (or about \$340.00) as against the lesser cost of educating a child not blind (which is only about \$30.00). The cost to the State of a dependent blind person has been estimated to be about \$10,000.00, so that with almost 100,000 blind persons in our country, there is a yearly expenditure of millions of dollars in the care of such persons by the State.

Contrast now the expenditure of the above millions of dollars, on care after the mischief is done, with that accruing through the use of a one or two per cent. solution of silver nitrate, applied to the eyes of all new-born infants, and by means of which treatment this horrible and pathetic disease could be practically prevented. If a single penny will protect the eyes of two new born children from blindness, how utterly foolish and cruel not to so expend it, instead of spending much greater sums for the care of the thousands of dependent blind, who become blind because such treatment was not given, and whose lives are often filled with days of misery as well as of perpetual darkness.

We should, therefore, educate the public to demand the use of this silver nitrate preventive solution by physicians and midwives, and have laws to enforce its use, as well as arrangements for its distribution through State and other boards of health, so as to make the use of this one per cent. silver nitrate solution easy and universal in all medical and midwifery practice.

3. OCCUPATIONAL INJURIES.

The third group of factors causing blindness, to be here briefly noted, are those relating to injuries.

This portion of our subject can be briefly covered by simply stating that in all occupations where foreign particles, such as fragments of steel, or particles of molten metal, acids, or other caustics are liable to fly off from tools or implements or other apparatus, that our laws should insist that

protective glasses be given the workmen, and that protecting shields as well as signs calling attention to the liability and special danger of such apparatus be in evidence and in use in all such shops.

The workman should likewise be educated not to permit a fellow workman to attempt to remove such foreign particles once they become lodged in the eye, lest infection, serious direct damage, or the danger from delay in serious injuries, lead to grave danger to the integrity of the injured eye.

Happily, our State compensation laws, now coming into operation in many of our commonwealths, are in this connection bringing about a much better state of affairs than formerly, for now the employer, the insurance companies, and the workmen themselves all find it to their individual and joint advantage to pay some attention to these matters.

The above are a few phases of the conservation of vision movement, and they indicate why this propaganda should appeal to all who have the comfort and happiness of the individual, and the welfare of the State at heart. It is gratifying to know, too, that each year, real advance is being made in the solution of this great problem; and with a consistent, persistent, educational campaign, there need be but little doubt that there will be a decided decrease in the incidence of blindness, and of accidents or visual defects, which are now so frequently responsible for partial or total loss of vision, with all the attendant horrors of blindness and of the misery associated with cosmetic or economic inferiority.

HUMAN CASES OF RABIES IN CALIFORNIA AND THEIR TREATMENT.*

By J. C. GEIGER, M. D., Bureau of Communicable Diseases, Berkeley.

The first case of rabies in human beings in California occurred in March, 1899, and was reported by Radebaugh.¹ The remaining cases, 33 in all, occurred during the epidemic of rabies that, since 1909, has swept completely through California. Colburn,² Black and Powers,³ Sawyer,^{4,5} and myself⁶ reported that up to April 1, 1913, the toll of human deaths from rabies in California was 18. Between April 1, 1913, and March 31, 1916, there were 15 cases. These are as follows:

1. A. C., a man, age 23 years, died of rabies on May 22, 1913, in San Francisco.

The patient had been bitten by a dog about two months before. Portions of the brain tissues were examined at the laboratory of the San Francisco Health Department and at the State Hygienic Laboratory, and many large Negri bodies were found. Animals inoculated with emulsion of the brain came down with characteristic symptoms of rabies.

2. J. B., a child, age 4, died of rabies in San Francisco, May 26, 1913.

She had been severely bitten on April 25th by a dog which was found positive on microscopical examination at the laboratory of the San Francisco Board of Health. The bite on the face, about one inch below the right eye, was severe. It was

cauterized within an hour, and the child was placed under the Pasteur treatment within 24 hours. On May 20th, four days after completion of the treatment, she became ill, the principal symptoms being fever. On May 23rd, her temperature reached 105.2. The patient was restless and nervous, sleeping at intervals, but was able to take both milk and water. On May 25th, when given small quantities of liquid, she showed marked distress upon attempting to swallow.

Parts of the brain tissue were sent to be examined at the laboratory of the San Francisco Board of Health and the State Hygienic Laboratory. Negri bodies were found on microscopical examination and rabies produced in rabbits by inoculation with the brain tissue.

3. C. R. L., a man, age 30, residing near Sebastopol, in Sonoma county, died of rabies at Santa Rosa, September 17, 1913.

The patient was bitten deeply on his right wrist by his dog on August 12, 1913, while hunting. The dog had been acting queerly. The first symptoms of rabies in this case appeared September 13th. The patient consulted his physician, stating that he had not been able to sleep because of pain in both arms and shoulders and in the back of his neck. The patient was rational, but seemed nervous and uneasy. He was able to drink fluids but had difficulty in swallowing. His physician telephoned to the State Hygienic Laboratory and was informed of the announcement of Moon⁸ in the Journal of Infectious Disease that massive doses of quinine had cured rabies in dogs after symptoms had been pronounced. Quinine in 40 grain doses in physiological salt solution was administered intramuscularly, on September 16th. In the evening, the same dose was repeated intravenously. At this time, the patient could drink with great difficulty. On the morning of September 17th, another 40 grains of quinine were given intravenously, making 120 grains of quinine given, 80 of which intravenously, 12 hours apart. Later in the morning the patient was entirely unable to swallow fluid. The patient died, following prolonged convulsions.

Portions of the brain tissue were sent to the State Hygienic Laboratory for examination. Microscopical examination of the hippocampus showed many intracellular Negri bodies within the ganglion cells, and rabies was produced in rabbits by inoculation with the brain tissue.

4. F. I. W., a child, aged 5½ years, died of rabies, in New Castle, Placer County, on July 25, 1913. The patient was bitten on the arm by a strange dog on July second. Rabies was not suspected in the dog. On July 23rd, the patient showed a general nervous irritability, with vomiting at frequent intervals. The patient evidenced great desire for water. Saliva drooled from the mouth throughout the day. Pupils were dilated. On July 24th, she showed extreme restlessness with beginning incoherent speech and movements. She had a temperature of 104 at 4 p. m. That evening, there was marked delirium and patient picked at bed clothes and tore her finger nails on the bed. Constant expression of terror on face. Incessant thirst was present but attempts to drink not only caused vomiting but spasm of the glottis. The whole musculature of the throat became spasmodically contracted and the water was forcibly ejected. Vomiting of dark bloody material occurred.⁷

5. G. K., a Japanese, male, age 32, died of rabies at Los Angeles, August 6, 1913.

This patient was bitten on the arms by a rabid dog at San Bernardino, on June 30, 1913. On August 4th, he had distinct symptoms of rabies. This man had been instructed, after the biting, to take the Pasteur treatment, furnished by the State Board of Health at Los Angeles, but he had not followed the advice. There was no autopsy.

6. P. G., of Lincoln, a man, age 57, died of rabies at Auburn, November 15, 1913.

* Read at the Forty-fifth Annual Meeting of the Medical Society of the State of California, Fresno, April, 1916.

On October 27th, this patient noticed his dog acting strangely and concluding that the animal had been poisoned, grasped the jaws with his hands, attempting to force them apart. The dog was killed very soon after the man was exposed and the brain was not examined. The patient claimed that the dog did not bite him. However, the supposition is that there was an abrasion or scratch on his hand when he was handling the dog. On November 14th, 17 days following this instance, he consulted a physician and complained of pain in the abdomen and of being unable to swallow. While in the physician's office, he called for a glass of water. In taking the glass in his hand, he shook from head to foot and on getting it to his lips, he would blow the water away, not attempting to swallow. When seen again that evening, he was in a highly nervous condition. When seen on the following morning, all symptoms had increased. 15 grains of quinine muriate were given intramuscularly. The patient died 1½ hours later. Numerous and unquestioned intracellular Negri bodies were found in the brain tissue.

7. C. B., a child, age 5, died at Oxnard, Ventura County, on November 9th, 1913.

This patient was severely bitten on the ear on September 30, 1913, by a rabid dog. The wound was not cauterized. Rabies in the dog was proved by examination at the State Hygienic Laboratory. The boy was placed under the intensive Pasteur treatment at the Southern Branch of the State Hygienic Laboratory on October 5th. This patient was treated at the same time with four other persons, who had been bitten by the same dog, all of whom remained well. Treatment was completed on October 25th. On November 9th, 15 days after the completion of the treatment, the patient's physician was consulted in regard to the nervous condition which had lasted ten days. The child was noticed to be highly nervous, having frequent spasms. Quinine and urea were administered. He refused everything by mouth except the smallest sips of water. Toward the end, he tried to scratch and bite objects which were near by. One dose of ten grains of quinine was given intravenously at 2 p. m., the patient dying at 5:45 p. m. It was necessary to control his convulsions with chloroform.

The physician in charge of the case mentioned the especially interesting fact that in the morning before the convulsions, the child was constantly rubbing the ear which had been bitten by the dog several weeks previously.

8. W. E., a child, age 5, died of rabies, Oakland, on March 25, 1914.

This patient was bitten on the face February 11th, 1914, by a dog which was proven rabid by microscopical examination at the Oakland City Laboratory. The bite consisted of two cuts one inch long over the right eye, one cut on the right eyelid and two rather deep tooth punctures in the right cheek. The biting occurred about 9 a. m. and he was taken by his mother to their physician for treatment. Tincture of iodine was used on the wounds. The boy was brought to this laboratory February 12th and was immediately placed under the Pasteur treatment. The patient reported in person at the laboratory on March 18th, perfectly well. On Monday, March 23rd, 18 days after the completion of treatment, his mother telephoned to the laboratory and stated that the boy was ill. When seen, the following history was obtained: The boy had gone to bed very nervous the night before and would not eat. He slept poorly that night. The next morning, his nervousness had increased and he refused food. His mother said he would "cry out," especially when food was forced on him. When seen, the patient was lying quietly in bed and recognized the persons around him. Examination showed all reflexes slightly increased and pupils widely dilated. Temperature by axilla was 101.5. An effort to

take the temperature by mouth caused tremendous excitement and brought on a convulsion. When a glass of water was forced upon him, he cried out, raised himself in bed and tried to push it away. After some insistence, he was able to drink a little but the effort caused him severe pain and another convulsion. The diagnosis of rabies having been made, one dose of 7 grains of quinine and urea hydrochlorate was administered intravenously and afterwards quinine was given in 5 grain doses by rectum every four hours. All symptoms gradually increased. The patient died on Wednesday, March 25th, 1914, just six weeks after being bitten and three weeks after the completion of the Pasteur treatment.

Parts of the brain were sent to the Oakland City Laboratory and the State Hygienic Laboratory for examination. Many intracellular Negri bodies were found on microscopical examination. At the State Hygienic Laboratory a rabbit was inoculated intracranially with some of the brain tissue. The rabbit came down with symptoms of rabies and died two weeks after inoculation.

9. G. S., a man aged 65, died of rabies at Anaheim, Orange County, on December 7th, 1914.

About October 1st, while leaving town for his ranch, he was bitten superficially on the index finger of the right hand by his pet dog. The dog acted queerly for several days after this and died within a week. The supposition was that the dog was poisoned, and the animal was buried without saying anything further about it. On December 5th, 66 days after having been bitten, the patient complained of pains in the muscles of the limbs and back, the pains being especially localized in the muscles of the back of the neck. He complained of what he called a tight feeling in the throat and feared strangulation. The symptoms came on in periods of every two or three hours. An intense headache developed and there was difficulty in swallowing. On December 6th, the case was very restless and had spasms of all muscles. Respiration was labored. On December 7th, swallowing became impossible and there was profuse sweating. Spasms of the muscles of the trunk and limbs had to be controlled by chloroform. The patient died in convulsions. No autopsy was made.

10. A child, E. DeG., aged 3 years and 9 months, died of rabies at Hanford, Kings County, on December 28, 1914.

This case was bitten by a dog proven rabid on microscopical examination at this laboratory on December 6, 1914. The bite was over the left eye, and about one-half inch long. The wound was swabbed with pure iodine about three-quarters of an hour after the biting. The Pasteur treatment was begun five days after the biting occurred, and there was no interruption in the treatment until the fifteenth day, when the child showed symptoms of extreme nervousness and fear. There was difficulty in swallowing. Convulsions appeared and were brought on by any excitement, movement, or sound. The child was in constant tremors or spasms. Saliva drooled from the mouth and there was frequent vomiting of a brown greenish fluid. Morphine used to control the convulsions was of very little effect. The child died in convulsions on December 28, 1914, 36 hours after the beginning of symptoms. There was no autopsy.

11. Z. D., a boy, aged 5 years, residing at Santa Cruz, Santa Cruz County, died of rabies in Santa Cruz on February 19, 1915. This patient was bitten on January 4, 1915, on the right hand by a dog which was found rabid on microscopical examination at this laboratory. The bite consisted of a severe, deep wound, nearly to the bone, on the outer edge of the right hand. There were lacerations extending in several directions. The wound was not cauterized. The administration of the Pasteur treatment was begun on January 10th, 1915, and should have been completed on

January 30, 1915, but, owing to the severity of the wound, the fact that it was not cauterized, and the delay in appearing for treatment, the regular scheme of treatment was supplemented by live extra days.

On February 17, 1915, 44 days after the patient was bitten, he complained of pain in the back and joints. His temperature was 101, pulse 120. On February 18th the symptoms were the same except that he complained of a severe headache and pain in his eyes. On February 19th his temperature was 102.6, pulse 138, and respiration 30. He swallowed with difficulty. Every time he tried to drink his jaws would set. He wanted a light kept close to his face, as he could not see well. There was some twitching and jerking, and later opisthotonus was noted. He complained of a tightness in the chest and felt as though he could not breathe. Later in the afternoon he became somewhat violent, fighting and scratching. Paralysis of the muscles of respiration was most marked, and there was a large amount of drooling of saliva. The symptoms became worse and the patient died that evening. An autopsy was held and the brain was removed and sent to the State Hygienic Laboratory for examination. Prolonged microscopical examination failed to reveal any Negri bodies, and two rabbits were inoculated intracranially on February 24th with some of the brain tissue. Both rabbits came down with symptoms of rabies and died two weeks after inoculation. Microscopical examination of their brains showed many typical intracellular Negri bodies with granules.

12. M. P., aged 3 years, from Watsonville, California, died from rabies in San Francisco on February 23, 1915. On January 20, 1915, this case was bitten through the tongue by a dog which was proved rabid on microscopical examination at this laboratory. The bite was through the tip of the tongue on the right side near the edge, this edge being torn when the tooth was withdrawn. The wound was treated with tincture of iodine one hour after the biting. On January 28, after a delay of eight days, the child was brought to this laboratory and was immediately placed under the Pasteur treatment. The course of treatment was uneventful up to February 15, the last day the child showed up at the laboratory. The mother telephoned that the case had a severe cold, and temperature. They were asked to have a physician see the patient, and Dr. J. F. Sullivan of San Francisco was called in. We were informed by him that the child had not eaten since Tuesday and insisted on lying down and seemed somewhat in a stupor. The temperature by rectum was 105. The reflexes were normal. There was no dilatation of the pupils but there was a constant flow of thick, ropy saliva from the mouth. The case was extremely nervous. Rectal temperature 106, pulse 132. There was considerable twitching of the hands and picking at the bed clothes. The head was inclined to turn to the left side. The pupils reacted and there was a tendency to roll the eyes upward. The flow of saliva was somewhat decreased since it was first noticed, and it was rather frothy. The child swallowed easily and took nourishment. All reflexes were slightly increased. About ten minutes after taking some nourishment there was considerable vomiting. On the afternoon of February 20, three days after the beginning of symptoms, the patient had a convulsion lasting for several minutes followed later by another which was continuous for about an hour. These convulsions were controlled by ether, but continued at intervals all during the night. The following day there was frequent vomiting and a slight cough, and the patient muttered occasionally. She rested quietly for a few minutes and then there would be a period of excitement followed by a peculiar crying. An erythematous rash was noticed. There was a tendency to bite the tongue. On February 22nd, convulsions were

frequent. The hands and legs would relax but the head was thrown backwards. The erythematous rash appeared frequently during the last twenty-four hours, disappearing within a few minutes. In the afternoon the patient was in a comatose condition, with intervals of twitching. Opisthotonus was present before death. An autopsy was held and the brain was removed. Microscopical examination and animal inoculation at the State Hygienic Laboratory and in the laboratory of the San Francisco Health Department were positive for rabies.

13. A. J. W., a man, 39 years old, died of rabies in Emeryville, Alameda County, on April 7, 1915. On Sunday, March 14, the patient was bitten by a dog on the palmar surface of the middle finger of the right hand. There were several dogs around him fighting. The patient was bitten while endeavoring to separate them. The dog doing the biting could not be found. On April 4, three weeks after the biting occurred, the patient became very restless and nervous, and complained of having trouble in swallowing. He had pains which extended up his right arm to the shoulder and a short distance into his back. The patient was unable to sleep at any time after the onset and ate very little during his illness. His temperature was 101. The patient could not swallow water, and if he was induced to take some he would spit it out violently. He was somewhat delirious during the night. On April 6th he could not be controlled, and tried repeatedly to get out of bed. The administration of morphine did not keep him quiet. He was very nervous and apprehensive, and picked at the bedclothes. On April 7th, the fourth day of his illness, he began having convulsions, and endeavored to bite his attendants. He would attempt to talk even during the convulsions. He apparently had an extreme fear of water and would shake violently when it was offered to him. The patient died later in convulsions. No examination of the brain was made.

14. D. N., a child 3 years old, died of rabies in Los Angeles on June 9, 1915. This patient was bitten through the eye by a stray dog on May 24, 1915. The dog disappeared and was not found. The wound was cauterized but the Pasteur treatment was not administered. On June 6, 13 days after she was bitten, the child refused to eat or drink. On June 8th she was transferred to the County Hospital, Los Angeles. There was a general nervousness, frequent catching of the breath, and occasional fits of screaming. Due to the administration of bromides and chloral, the fits of screaming ceased, but a general nervous condition was constant, the child frequently catching its breath and constantly keeping the hands in motion. The patient appeared very alert and constantly picked at some article with her hands. The temperature ranged from 102 to 104. She died in convulsions. No examination of the brain was made.

15. M. B., 15 years old, died of rabies on July 29, 1915, at Bakersfield, Kern County, California. About four weeks before the death of this patient he was bitten by a stray dog. The wound was on the right ear, a small portion of his ear being taken off. On July 19, a physician was consulted because of a high temperature and an extremely nervous irritability. During the night the patient's general condition became worse, the nervous irritability increasing. The patient died in convulsions on July 20. An autopsy was held and showed nothing except hyperemia and oedema of various organs including the brain. Part of the brain tissue was sent to the State Hygienic Laboratory in formalin for diagnosis. Owing to the material used in the fixation, it was impossible to make an animal inoculation. After examining numerous stained sections of portions of the brain sent, we were unable to find anything suspicious of rabies.

A STUDY OF THE CASES.

Of the thirty-three cases of rabies occurring during this epidemic, nine were having administered the Pasteur treatment or had completed the regular course. Of these, three came down with definite symptoms on the 17th day of treatment and one on the 19th day. Of the remaining, two showed symptoms in four days, two 15 days, and one three weeks after the completion of the full course of treatment. These facts are extremely interesting because Pasteur, in his experiments on dogs, showed conclusively that the full effect of anti-rabic vaccine did not manifest itself until 15 days after the completion of the treatment. Considering that full immunity is not established until the expiration of this time, only three of these cases are true failures of the treatment. The extreme virulence of the virus, as demonstrated by the short incubation period in these cases, is sufficient evidence against any delay in appearing for the treatment. Again, this short incubation period makes plain the limitations of the Pasteur treatment because its use did not check the disease, owing to the recognized slowness of effect. Twelve of the cases were bitten in the face and two were attributed to the inoculation of the virus into scratches and wounds with the saliva of the animal doing the biting. One case was bitten through the tongue. The balance of the bites were on numerous parts of the body. The shortest time of death after being bitten was 16 days. This occurred in two instances, both patients being bitten on the face. Of the remaining cases, death in six occurred three weeks after being bitten, in two four weeks, in seven five weeks, in two six weeks, in one seven weeks, in three eight weeks, in two nine weeks, and in one eleven weeks. The duration of illness in the majority of instances was three days, the longest being ten. In every instance but one, and that by a cat, the bites were caused by dogs. In only six of the cases were the wounds cauterized at all, five of these being with nitric acid. In fourteen instances, the diagnosis of rabies was proven by microscopical examination and animal inoculation, in three by microscopical examination alone, and in three by animal inoculation alone, and in fourteen by symptoms. We have records of two cases of pseudo-rabies occurring in human beings in which the clinical diagnosis was justified by the symptoms presented. In one, the length of the illness coupled with the fact that the animal doing the biting was well and from the later symptoms presented by the patient, was proof that he was a maligner. In the other case, the diagnosis of hysteria was borne out by the duration of the illness and its recurrence at the will of the patient.

It will be noted that every sedative used failed to control the nervous condition in any way whatever. In four of the cases, quinine was used during the course of the disease without any effect. This bears out the experimental results obtained by myself with the use of quinine in rabies in dogs. In two of my experiments the control ani-

mals died from the effects of the quinine before the death of the other animals with rabies. A copy of the report of the committee of inquiry into the Pasteur treatment, of which James Paget was president and Joseph Lister a member, obtained from the United States Consul at London, is on file at the Bureau.

This report calls attention to the failure to have effect in cases of rabies of many drugs, among which was quinine. Therefore, Moon's⁸ advocacy of the use of quinine was not original and, as shown by this committee, as well as our experiments, is of no avail whatsoever in the treatment of rabies.

Taking into consideration the knowledge that we have at this time of the disease, it is obvious that treatment for rabies, in its active stage, must still remain palliative.

References:

- ¹Radbaugh, J. M. Quoted by Black and Powers, California State Journal of Medicine, Nov., 1910, Vol. VIII, pg. 370.
- ²Colburn. Quoted by Black and Powers, California State Journal of Medicine, Nov., 1910, Vol. VIII, pg. 371.
- ³Black, S. P. Southern Calif. Practitioner, Feb., 1911, Vol. XXIX, pg. 78. Black, S. P., and Powers, L. M., California State Journal of Medicine, Nov., 1910, Vol. VIII, pp. 309-312.
- ⁴Sawyer, W. A. "Rabies in California." California State Journal of Medicine, July, 1911, Vol. IX, pp. 294-298.
- ⁵Sawyer, W. A. "Rabies and Its Present Status in California." California State Journal of Medicine, August, 1912, Vol. X, pp. 318-329.
- ⁶Geiger, J. C. "Work of the Pasteur Division of the State Hygienic Laboratory." California State Journal of Medicine, August, 1913.
- ⁷Allen, Ralph E., and Horne, F. L. California State Journal of Medicine, October, 1913, Vol. XI, pg. 408.
- ⁸Virgil H. Moon. "The Effect of Quinine on Rabies in Dogs." The Journal of Infectious Diseases. Vol. XIII, pp. 165-170.

THE CONSERVATIVE TREATMENT OF FRACTURES OF THE LONG BONES AND OF WOUNDS COMPLICATING THEM—A PAPER IN ORTHOPEDIC SURGERY.

By JAMES T. WATKINS, M. D., F. A. C. S.,
San Francisco.

Fracture work is now generally recognized as coming within the activities of the orthopedic surgeon. Further, students of contemporary medical literature comment upon the fact that of late years most, if not all, positive advances in conservative fracture work have been made by orthopedic surgeons. The present paper, which is in no wise original, but which represents the beliefs and practices of the writer, attempts to outline, from the viewpoint of an orthopedist, the principles, for the most part mechanical, which underlie fracture work.

What might be called "the exciting cause" of this paper has been the group of very unfortunate results following fracture work which the writer had occasion to review while acting as one of its medical referees for the California State Industrial Accident Commission.

"The predisposing cause," to continue the metaphor, was Joseph Bloodgood's review of fracture work for Progressive Medicine, 1911, from which the following quotations seem apposite. "In my mind," says Bloodgood, "the most important contribution of Mr. Lane is the remark that *people should demand better results in recent fractures.*"*

*Italics are the writer's.

And again, "Surgeons with no orthopedic training often fail to get perfect results when the operative part is above criticism. This failure is due to the neglect of orthopedic apparatus in the after-treatment."

Nothing admits of more difficulty in the formulation of rules of procedure nor calls for nicer surgical judgment than the treatment of presumably infected wounds when complicating injuries of tendons, of bones or of joints.

Dr. Murphy of Chicago warns repeatedly against introducing fingers or instruments into the wound where there is a compound fracture. This is unquestionably good advice. For example, where a spicule of a fractured bone has been thrust through the skin, it is good surgery to snip it off with the forceps, straighten the limb, apply a dry sterile gauze dressing and await developments. In such a case I should also paint the skin with tincture of iodine. In nine times out of ten within a week the wound in the skin will have healed and the physician will find himself confronted by a simple fracture. In the tenth case, upon the first evidence of the presence of infection the skin incision should be enlarged and the wound drained from the bottom.

Where very extensive wounds are manifestly infected, but from the location and nature of them drainage is good, and where efforts at cleansing must necessarily lower the vitality of already devitalized tissues it is good surgery to apply loose sterile dressings, immobilize in a position which will relax the soft parts and await results. In this relation the following case is cited as an example: The writer saw in consultation a gentleman who had been run over by an automobile and had sustained injuries which left the interior of both knee joints communicating through dirt-infected wounds with the outer world. The wounds were in the postero-external and postero-internal aspects of the respective limbs and freely gaping. The attending surgeon applied large loose sterile gauze dressings and immobilized in partial flexion. The wounds healed uneventfully, though slowly because of the lowered vitality. At a subsequent operation the tissues were found to be infiltrated with particles of dirt which had become encapsulated. (This patient was subsequently seen at his surgeon's office whither he had walked without assistance. There was free motion in both knees.)

The surgeon to one of the great public service corporations sees large numbers of infected wounds occurring in vigorous young men. From the nature of the men's occupation these wounds are usually full of grease and grime. In such cases he regularly removes the grease and dirt with gasoline and alcohol and then applies a large campho-phenol and gauze dressing. When infection occurs under these conditions it is of a low grade and easily controlled. Unless one can be certain of his campho-phenol it is best not used. Carbolic acid absorption and burns are apt to occur if the solution has not been correctly prepared. Instead of campho-phenol a saturated solution of magnesium sulphate may be used.

Many surgeons still give the parts a thorough

scrubbing with soap and water after shaving and apply antiseptic lotions. After enlarging the wound they pack to the bottom with gauze wet in an antiseptic solution. That such treatment must inevitably disseminate more thoroughly whatever infection is present at the same time that it tends to prepare the tissues for infection by lowering their resistance will be apparent to anyone with surgical sense.

Wherever tendons have been severed in open wounds, the limb should be immobilized in that position which best relaxes the affected parts. When the wound has healed the severed ends may be caught and sutured through a fresh incision made under aseptic precautions.

PRINCIPLE OF TREATMENT.

1. Where infected wounds communicate with injured tendons, bones or joints, treat as for an infected wound. When the infection has subsided treat the fracture or injured tendon.

2. Always give nature a chance to combat the infection by avoiding further diffusion of the latter or lowering vitality through unwise surgical zeal.

ON FRACTURES.

The attention of the medical profession might profitably be arrested by the report of a special committee of inquiry appointed by the British Medical Association to review the end results in fracture work. Of the 2596 personally investigated cases in which no open operation had been performed 1422 or 53.6% showed results which were both anatomically and functionally good. Sixteen and one-half per cent. were anatomically bad but functionally good. That is, there were 70.1% of good functional results in all.

Of all cases submitted to operation 78 were secondary, when it was found that conservative treatment was not maintaining good position. In this group of 78 secondarily operated cases 60% of good functional results were obtained. Eighty-three cases of nonunion which came to operation gave only 38% of good functional results.



Fig. 1—Overriding but good alignment.

In all, 147 cases were investigated which had been submitted to primary operation. They gave 79% of cases with good functional and good anatomical results. There has been a tendency to take comfort in the idea that many cases in which the anatomical reposition of fragments is not good, end in a good functional result. This is not borne out by the committee's investigations. The committee's statistics show that good anatomical results give 90.7% of good functional results while poor anatomical results give but 29.7% of good functional results.

These statistics furnish ground for serious reflection. At the first glance the treatment of fractures by open operation would seem to be preferable. In this relation, however, as long ago as 1911 Dr. Joseph Bloodgood had collated the following opinions (subsequently corroborated by a vast deal of clinical evidence) which are too weighty lightly to be disregarded and which sound a note of warning with regard to indiscriminate attempts at setting fractures by open operation. Ransohoff is of the opinion that it is one of the most dangerous of operations, except in the hands of an expert. Edward Martin of Philadelphia emphasizes the importance of having proper implements and appliances and follows Lane's technic. Lund agrees with Martin. So does Murphy of Chicago. Hessert voices eight important don'ts dealing with when not to operate, and so on.

Finally Bloodgood himself says "It is not surgery for the inexperienced. Operations for appendicitis, gallstones and intestinal suture, are as a rule, much less difficult than many of the operations for fracture. I would advise the surgeon who suddenly decides to begin the open treatment of fractures to arm himself with Lane's instruments and if possible to witness his technic." (Progressive Medicine, 1911.)

It is certain that the very great majority of physicians who are called upon to treat fractures have not had opportunities to observe Mr. Lane's technic nor to acquire his instruments. No small percentage of them will not even have access to the operating rooms of a first-class hospital. A more general recognition of these facts is certain to create in the mind of the practitioner of not more than average surgical advantages a revulsion against the open operation and to cause him to pause and consider whether a clearer recognition of the principles underlying conservative treatment and a more accurate and consistent application of them may not in his hands afford a safer, a simpler, and a surer method of meeting the problems presented by this group of cases. To practitioners of this class this paper is addressed.

What then are the principles underlying the conservative treatment of fractures? First, *every fracture* must be thought of as a *potential deformity*; that is, it will result in a deformity if its tendency to do so is not anticipated by appropriate treatment. Again deformity leads to impairment of function. In considering treatment the aim is to seek out the safest, quickest and easiest way of restoring function, i. e., to repair the break in the bone without injuring anything else in doing so.

In a fracture of a long bone there must be secured an alignment of the fragments which is mathematically correct. Then the axes of movement of the joints at either end of that bone will retain their relative positions and the stresses of muscular action will act across these joints in normal lines or planes. And here let me pause to tell you that *if you would hold a long bone you must control the joint at each end of it.*

Incorrect alignment must result in changed mutual relations of the joints at either end of a bone and in abnormal muscular stresses across these joints, with consequent deformity and interference with function. End to end apposition is in no wise so important as correct alignment, though greatly to be desired.

The conservative treatment of fractures implies their treatment by manipulation and external splints. The purpose of a splint is first to maintain correct alignment and second to immobilize the parts. Since the parts to be splinted are cylindrical and not flat, cylindrical splints are to be preferred to flat ones. A flat splint will touch a cylindrical limb along a narrow line only. To attempt to immobilize a cylindrical limb upon a flat splint may call for the application of sufficient force to cause the parts above and below the fracture to be pulled out of alignment. The treatment of fracture of a single bone of the forearm constitutes the only exception to this rule.



Fig. 2—Pott's fracture properly set; X-rayed while in cast.

Cylindrical or trough shaped splints may be made either of metal or of plaster of paris. In the first instance they can be cut from thin sheet iron plates of No. 24 wire gauze thickness. They can then be bent or twisted as desired and adjusted easily to the body contours. They should be padded with felting or sheet wadding. Plaster of paris may be applied over cotton wadding or stockinette either in the form of a swathe or by circular or spiral turns of plaster bandages. In the latter case such a splint is best split up the middle longitudinally as

soon as the plaster has set, or it may be split on either side in a frontal plane so as to create an anterior and a posterior valve splint. The plaster of paris bandages should be applied in even smooth turns about a limb but not drawn tightly. To apply them tightly renders probable a displacement of the fractured ends and faulty alignment. A tight splint constitutes a hindrance to that reactionary swelling which is so essential a preliminary to rapid repair.

Where fractures are near or enter into joints, true alignment, especially of the axis of movement, is essential. In treating such fractures it must also constantly be borne in mind that small fragments of bone may get between the bones and block joint movement or exuberant callus formation may hinder it. The muscles about such a joint may be employed to help splint fractures near it or, if disregarded, they may offer a permanent obstacle not only to alignment but even to union.

All fractures must be immobilized, and of fractures near or into joints the following generalization may be accepted as a principle of treatment. *They should be immobilized in the extreme of that position which normally they find the greatest difficulty to assume.* Fractures of the elbow (except those of the olecranon) should be put up in hyperflexion; fractures of the neck of the femur, in maximum abduction, etc., etc. By applying this principle a "right of way" is maintained for the one component of the joint upon the other.

The question "when may motion be begun" where a fracture is near a joint is an important one. The answer is when the joint has ceased to be tender to palpation. If 5° to 10° of motion is found to be present after this joint tenderness has subsided a favorable prognosis may be given. Next the joint may be permitted to be moved through a small range of motion. If after two to three days this motion has decreased in amount, if the joint is found to be stiffer, this fact must be regarded as evidence that fixation should be maintained for a while longer. If on the other hand movement is free, still further mobility may be permitted.

Passive movements are only indicated when there is reason to believe that after protracted immobilization fibrous adhesions and ligamentous shortening prevent further advance in movement. Then according to Mr. Jones "passive movement should be done once in each direction in which movement is limited. It should not be followed by a reactionary swelling and stiffness which lasts for more than twenty-four hours. If the joint is stiffer twenty-four hours after a single movement it means that it is still not ready for movement, or the movement used has been too violent. To and fro passive movements are very likely to stir up a reaction of an inflammatory nature which leads to more effusion and more adhesions." Massage when skilfully done and of the lightest possible nature is valuable at all stages; but unless the operator is absolutely sure of himself, it is best to forego it altogether and to rely wholly upon absolute rest. Continued pain or tenderness means that repair has not been allowed to become firmly consolidated before the stresses of muscular action or of gravity

have been allowed to act upon a fracture, thereby keeping up irritation.

NONUNION AND MALUNION.

Nearly all cases of nonunion are really cases of delayed union. Of course, there are exceptions to the rule but they are rare. There is no way of knowing the time it will take a fracture of any given bone to unite and consolidate. What you read in the textbooks is a generalization to which there are an infinite number of exceptions. Every individual differs from every other in this respect. One individual may require twice or three times the usual period and still present no discoverable abnormality.

Failure of osteogenetic repair is best treated by pounding the region of the fracture with a padded hammer and then tying a rubber band several inches above and below the fracture site tightly

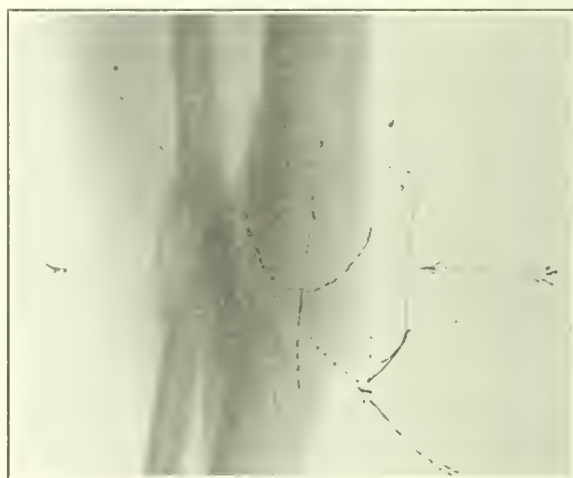


Fig 3—Fracture of tibia and fibula with bad alignment but good apposition.

enough to cause this part of the limb to swell to very much more than its normal girth, thus expanding all the capillaries and lymph spaces in the fibrous tissue and allowing a new process of repair to start. After this you should continue with your fixation for twice or three times the usual interval. To be sure in some cases tissue intervenes between the fragments and open operation is called for. But the majority of cases of nonunion are actually cases of delayed union. Where other methods have failed the transplantation of a healthy bone graft is indicated. However, this operation calls for an exquisite operative technic.

MALUNION.

It is wise to protect a fracture, especially a fracture of the lower limb, from undue stress even after it appears to be firmly united. The reason for this precaution is because of the frequent occurrence of a form of malunion resembling delayed union. The patients after the lapse of the usual interval required by such a fracture to heal use the part for a while with satisfaction, but later they begin to complain of pain and, especially at the site of fracture, of functional disability. Examples are the painful pronated foot which fre-

quently follows Pott's fracture and so-called rheumatic pains associated with old fractures of the femoral neck.

(To be concluded.)

LARGE CYSTS IN THE BLADDER.*

By HENRY MEYER, M. D., San Francisco.

I desire to report five cases of large cyst in the bladder which have come under my observation. This leads me to believe that they cannot be very uncommon, although such literature as I have read has nothing to say on the subject. The contents of these cysts I have never obtained, but believe it to be mucoid in character, and will say that the same is transparent.

The location of these cysts was close to the neck of the bladder in all cases but one, and that one was attached to the base, to the left of the left ureteral orifice and was distinctly pedunculated and the largest of five; the others were sessile. All were in men.

The diagnosis in all the cases was easily made by cystoscopy; and the diagnostic feature was the translucency of the tumors.

All the patients complained of frequent or difficult urination, or both, without pain. Three of the cases had residual urine.

The treatment in all the cases was the same, and as far as I know, original with myself, and consisted in burning one or more large openings through the cyst wall with the large flat cautery on the Nitze operating cystoscope at white heat, thereby allowing the contents of the cyst to escape and its walls to collapse.

No anesthetic was used except in the first case, where a four per cent. solution of cocaine was used in the urethra.

Case 1. Mr. G., 45 years old, I saw in October, 1908. Patient complained of difficult urination and had four ounces residual. The tumor was large, translucent and sessile, and attached to the posterior aspect of the bladder wall close to the neck, partially obstructing the urinary outlet. Urine was normal. The patient was cured at one sitting by burning a large hole through the cyst wall with a large flat electro-cautery. The contents of the cyst escaped, and the walls of the cyst collapsed immediately. The patient emptied his bladder completely and walked home. He has had no disturbance since, a period of seven years.

Case 2. C. L., a physician, 42 years of age, seen through the courtesy of Dr. E. G. McConnell in April, 1910. This patient complained of great difficulty in urination; in fact he stated that he had difficulty in urination as long as he could remember, and resorted to the occasional use of the catheter. He had sixteen ounces foul turbid residual urine containing considerable pus, which came slowly dribbling through the catheter, showing great lack of muscular power. Cystoscopy showed a large broad-based translucent tumor attached to the anterior aspect of the bladder close to the internal urethral orifice, hanging down and obstructing that orifice.

This cyst was apparently multilocular and required three cauterizations before it disappeared entirely, part of it disappearing with each cauterization. The residual urine diminished from sixteen to four ounces; in fact the muscular power of the bladder was so impaired that it never entirely regained its tone. Although permanent catheter-

ization was tried in this case, it availed nothing, and relief was only partial.

The cauterizations were done in my office without any form of anesthesia and with practically no pain. The prostate was not enlarged.

Case 3. Mr. H., 50 years of age, seen through the courtesy of Dr. A. Miles Taylor in April, 1910. Patient complained of frequent urination both day and night. Urine was normal; no residual.

Cystoscopy showed a large translucent tumor with broad base springing from the anterior aspect of the bladder close to the neck. In this case no obstruction was produced, but the tumor was a source of vesical irritability. One puncture with the large flat cautery on the Nitze operating cystoscope caused it to collapse and the patient's symptoms disappeared at once and he has had no recurrence.

The operation was done in my office without any anesthesia and the patient walked away and attended to his business without discomfort.

Case 4. Mr. B., 55 years of age, seen through the courtesy of Dr. L. H. Hoffman in March, 1912. He complained of frequent urination, having to pass urine from fifteen to twenty times during the day, but was not disturbed at night. He had two ounces normal residual urine and no enlargement of the prostate by palpation. Cystoscopy showed no enlargement of the prostate, but a large broad-based translucent tumor was seen attached to the anterior aspect of the bladder close to the neck.

This patient refused to be operated upon.

Case 5. Mr. C., 35 years of age, seen through the courtesy of Dr. McConnell in January, 1913. The patient stated that about one year before coming for treatment he had sudden retention of urine and had to be catheterized; that this was followed by the passage of some blood in the urine for several days. His only complaint when he came to Dr. McConnell was that the last part of his urine came away very slowly and he was conscious of some disturbance in the bladder which he could not describe. He had no residual and his urine was normal.

Dr. McConnell made a cystoscopic examination and diagnosed a large cyst of the bladder which was confirmed by my examination. The tumor was the largest of the five cases reported; it sprung from the base of the bladder about three-quarters of an inch to the left of the left ureteral orifice and as near as I could judge, it was at least two inches in diameter and possibly a little larger. It moved readily backward, forward and laterally on its pedicle and this mobility of the tumor made it more difficult to operate. He was treated in my office without anesthesia by perforating the cyst with a large flat cautery in several places and the last examination, made one week after the operation, showed the remains of the cyst shriveled to a small mass about half an inch in diameter. One year after the operation the patient reported perfectly well.

I desire to say that cauterization of these cysts with white heat produces no pain. The operation is done with the bladder distended with 150 to 200 cc. of clear sterile fluid.

My object in bringing this subject to your attention is to learn the experience of other observers so that we can get some idea of the frequency of these tumors and trusting we may learn from some of the members something regarding the pathology of the same.

Discussion.

Dr. A. B. Grosse: I have seen only one case of bladder cyst as described, namely the size of a large pigeon's egg on a pedicle. It was in the case of a young German who consulted me shortly after the earthquake for a difficulty in passing his

* Read before the San Francisco County Medical Society, November 30, 1915.

water. I advised operation (by suprapubic route). As he was returning to Germany shortly, he preferred to have this done at home and was operated on by one of Nitze's assistants.

A BRIEF REFERENCE TO THE BACTERIOLOGY OF NASAL SINUS DISEASES.*

By JOHN J. KYLE, M. D., Los Angeles.

With the advent of serum therapy, greater attention to the bacteriological side of nasal diseases becomes necessary. We may favor or reject the theory of the curative properties of vaccines or serums, but not until we have personally proved or disproved the theory, or have faith in those who have sufficiently experimented, are we justified in making positive conclusions.

It is possible that the era of vaccine therapy is here, and here to stay. In consequence, the microscope becomes a necessity in the diagnosis of all sinus affections.

The question of prognosis may be in a few cases settled by the microscopical findings. It will require long experience and large statistics to settle such a question. The question relative to indication for operation and time to operate is always a very serious one. One cannot approach any sinus operation with an absolute sense of indifference. There is always some danger of lighting up a new infection producing septicemia, meningitis, or a sinus phlebitis or thrombosis.

Nor can we centralize all the general or local conditions about the affected sinus. Sometimes we magnify the local condition, and forget that some general condition may be the predisposing factor.

Two conditions, and frequently masked, that predispose to sinus disease are syphilis and tuberculosis. A patient with temperature and a chronic sinus disease should be looked upon with suspicion, as being due to a pulmonary tuberculosis. Temperature may accompany the onset of an acute sinus affection, but seldom do we find it in chronic suppurations. When it exists, we should look for general conditions that might complicate or retard the recovery.

Adjunct to the microscope is the Roentgen ray. It is impossible to give a positive diagnosis of ethmoid or sphenoid disease in all cases unless we employ the X-ray. In the diagnosis of maxillary antrum disease it may be necessary to depend upon the X-ray unless we confine our observation to puncture and lavage, and in doubtful cases this is the only method that will tell us positively that the sinus does or does not contain pus. In a few cases transillumination and X-ray both fail. However, the condition of the teeth should be known in all cases of antrum disease, and the X-ray is the only method that promises success.

There is a presumption that all normal sinuses are free from bacteria; however, there is constantly present in the nose bacteria limited to one or more varieties. The staphylococcus, one or other variety, is probably the most often found.

True pathogenic bacteria are more numerous in acute or subacute suppuration, whereas the non-pathogenic or mildly pathogenic are found in chronic conditions. It is not infrequent that the chronic cases become active and the infection virulent by new infection or a local tissue reaction from atmospheric condition or chemical changes in the body, which stimulates new vigor in the organisms. It is possible that so-called epidemics of grippe or influenza are in a great majority of cases acute exacerbations of old sinus disease, for many cases have recurrent attacks of catarrhal disease of the upper air passages year after year. During the past winter I have treated an unusual number of sinus cases and comparatively few cases of suppurative ears. How are we to account for this discrepancy? Is an apparent epidemicity of sinus disease due to some peculiar thermal or humid condition of the atmosphere which especially lowers the vitality, or to infection from one individual to another? There are no one or two pathogenic organisms, as far as our experience goes, which are exclusively the cause of so-called epidemics of sinus disease, and for that reason we think climatic changes are primarily a predisposing factor.

I do not profess to be a bacteriologist and my observations are those that may come to one leading a busy life and with a limited knowledge of the microscope. My assistant, Dr. Irving, has devoted a great deal of his time to this part of the work. I may say no one leading a busy life can find time without assistance to do the necessary biological work now incumbent upon the rhinologist or otologist.

My dealings with laboratory men have been unsatisfactory. I send them specimens and they not infrequently report that the organisms "look like" so and so but he is uncertain. He might find out by inoculating a guinea pig, growing blood cultures, etc., ad infinitum. Very few bacteriologists are in a position to take a sample of pus from any of the sinuses and in consequence must come to one's office, and this, on account of delay, is most unsatisfactory. A small inexpensive incubator, with a limited number of microscopical accessories, is all that is imperative for clinical diagnosis. The preparation of vaccines may be left to the expert, as well as the experimentation on animals.

In making our culture from the nose, it may seem a question how to prevent extraneous infection. I am inclined to think that the culture from the pus in or about any of the sinuses will show the organisms associated with the infection. In our antrum cases, we have secured the pus through a cannula either by drainage or suction. We have frequently at the same time made cultures from the inside of the nose and could find no difference in the results. The nasal cavity is not teeming naturally with microorganisms and there is a tendency to be a sterile cavity. Many times we dry the nasal cavity and with a suction apparatus try to secure secretion

* Read at the Forty-fifth Annual Meeting of the Medical Society of the State of California, Fresno, April, 1916.

from the sinuses and from this we make the culture.

Culture tubes of blood and Agar can be had from the Cutter Laboratories and at a minimum expense. There are times when bacteria will not grow upon either of the above media, or at least until after many trials. The skilled laboratory man in some cases may be necessary.

Sometimes from one growth we have the laboratory prepare our vaccines, and at other times we rely upon autogenous vaccines. We desire first to know the character of the infection.

The laboratory man condemns the use of stock vaccines. There may be a selfish motive to his position. The fact remains that most men depend upon stock vaccines.

In regard to the bacteriology of chronic atrophic rhinitis with crusts and ozena, we are under special obligation to Dr. Horn of San Francisco for his illuminating reports upon the cause and curse of Ozena. My knowledge of the bacteriological side of the subject is limited, but certain general observations may be permissible.

Since the appearance of the results of Hoffer, I have hoped to find the organism of Perez. Dr. Horn has given me a number of slides that show the Perez bacillus yet I am unable to differentiate the Perez organism from some of the Friedlander varieties. However, in the preparation of the vaccines this should make no special difference, and the vaccines thus prepared ought to cure the disease, provided we isolate the Perez organism and proper technique is used in the preparation of the vaccines and the theory is correct that vaccine will cure the disease. My results are not entirely satisfactory with the autogenous and stock vaccines.

We are inclined to believe that the so-called cocobacillus of Perez is more often present in the nose than heretofore anticipated. Odor is one of the characteristic symptoms of ozena, yet there are many cases in which the odor is not perceptible. The more pronounced the atrophic degeneration, the more pronounced the odor. In consequence, the more chronic the disease, the more pronounced the odor. Atrophic rhinitis or ozena is we believe more especially due to early sinus suppuration and to the Perez bacillus in the beginning, or some other organism which in time may give way to the Perez organism.

In one case of ozena during the past year we found tertiary syphilis of the nose. When the case came under observation there was complete destruction of the bony and cartilaginous septum, necrosis of the nasal bones, with symptoms of beginning flattening of the bridge of the nose. Under iodide of potassium the necrosis stopped and the nose became firm to the touch. The iodide of potassium was supplemented by five doses of salvarsan, and Wassermann continues positive. The symptoms of ozena continued, and apparently were not influenced by the antisyphilitic treatment. In this case an autogenous vaccine was twice prepared, without any results. We then used ten injections of a special vaccine pre-

pared by Dr. Horn, but without results. We again began the autogenous, and no results. This was followed by a new stock vaccine sent me by Dr. Horn and the results are apparently good. After fourth treatment odor disappeared and three weeks have passed with little discharge and no return of odor. Sufficient time has not passed to give any definite information in regard to the vaccine.

Microscopical findings varied in eight other cases of atrophic rhinitis that we have followed closely during the past winter. A mixed infection predominated.

A trophy of the cells does not interdict operation. Whenever crusts form, cells of some size are sure to be in close proximity. The size of cells is variable, and at times as small as a millet seed.

The organism resembling the Perez cocobacillus was found in all cases. In some of the cases there was a mixed infection. In one case the bacteriological laboratory reported Friedlander's bacillus, diphtheroid and bacillus pyocaneus. Afterwards Dr. Horn reported that he had in this case isolated the pure Perez cocobacillus.

In one case, mixed with our Friedlander or Perez bacillus, was the bacillus coli.

Since Dr. Horn has prepared a paper upon Ozena, and my knowledge of the subject so incomplete, I want, in dismissing the subject, to say that it is my belief that in a great many cases of chronic ethmoiditis, the Friedlander or the Perez bacillus may be found associated with the disease; that ozena may have in the beginning been a purulent ethmoiditis and sphenoiditis and in no respect due to syphilis.

Odor is a symptom, and the characteristic symptom of the disease. Atrophy of the ethmoid cells is secondary to infection and is not always present. Those cases with or without odor, that have the cocobacillus of Perez present and give a positive agglutination test, are to be classed as Ozena.

Treatment of Ozena is satisfactory in proportion to the free exposure and drainage of diseased cells. Our observations are too limited to express an opinion in regard to the value of vaccines. In two cases, perceptible results were obtained from the stock vaccines sent to us by Dr. Horn.

In about fifty cases of acute infection of the maxillary sinus, during the past winter, and classed among the epidemic or grippe cases, we found in twenty in all the staphylococcus albus or citreus as the sole organism. In one case we found bacillus pyocaneus and the pneumococcus mixed. This case responded to irrigation, and a few weeks after recovery the patient returned with a staphylococcus albus infection on the opposite side.

In one case of unilateral infection we found the bacillus pyocaneus in pure culture. Autogenous vaccine apparently helped in this case.

In another case of unilateral infection we found the micrococcus tetragenous in pure culture. This case made a good recovery after six weeks, by

frequent irrigation of a 1% solution of chloride of zinc. An autogenous vaccine was also administered early in the disease but no apparent benefit resulted from the vaccines.

In only one case did we find the streptococcus. In one case the micrococcus catarrhalis alone. In this case a radical intranasal operation was performed. A few days after the operation no evidence of the micrococcus catarrhalis could be found, but many staphylococci were present.

This transmigration or change of infection demonstrates the necessity of frequent bacteriological examinations of secretions before and after operation, provided we care to supplement our treatment by vaccines.

The bacillus pyocaneus is not infrequently found in the nose and ear. It usually persists for a long period of time. The reaction may be as great as from any pathogenic organism.

Vaccines in infection from the bacillus pyocaneus act very satisfactorily. In one case of sinus infection we found the bacillus pyocaneus also in the urine. Copper solutions are indicated for irrigation.

In one case of acute exacerbation of maxillary sinus disease we found the bacillus prodigiosus mixed with the staphylococcus. The bacillus prodigiosus, you may recall, is classed as a saprophyte and inflames the mucous membrane by acting upon dead tissue within the sinus.

In a record of the microscopical findings in thirty-two unselected cases of suppuration of the ethmoid sinuses, and grown on Agar and sometimes blood serum, we found the following in both acute and chronic cases:

B. Coli or	Mixed with Diphtheroid
Friedlander, II	and Staphylococcus.
Staphylococcus XI	
Streptococcus Pyogenes II	Both died from purulent meningitis.
Pneumococcus I	
Bacillus Perez IV	Two cases responded perceptibly to stock vaccines prepared by Dr. Horn.
(Diagnosis doubtful)	
Pyocaneus VIII	
Micrococcus	One Hay Fever patient.
Catarrhalis II	
Bacillus Prodigiosus I	
Lactis Aerogenes I.	

From the above imperfect statistics we find that the two organisms most active were the staphylococcus and the bacillus pyocaneus. Infection of the ethmoids may be monobacterial or polibacterial. As a rule, infections of the sinuses are monobacterial and, when drainage is free, go to spontaneous recovery. The anatomical structure of the nose is such as to predispose to poor drainage and consequent chronicity of ethmoid sinus disease.

We have no records of sphenoid suppuration independent of ethmoid suppuration. In two cases we believe that the bacillus of Perez was found. In one case a Friedlander and Diphtheroid.

The usual organism alone or mixed was the staphylococcus albus.

In the discharge from the frontal sinuses, sometimes complicated with maxillary sinus disease and sometimes ethmoid as well, in the record of a few cases we find the following, not enough cases however to give us any definite information:

Friedlander Bacillus I	
Streptococcus Mucosus and	
Staphylococcus Albus II	
Bacillus Pyocaneus II	One case acute, one chronic.
Staphylococcus	
Pyogenes Albus II	

We had one case of meningitis following a staphylococcus albus infection of the right frontal. Postmortem showed a circumscribed abscess which ruptured into the ventricles, with a diffused purulent meningitis. There was no dehiscence of the inner plate and infection seemed to travel by anastomosis of the blood vessels. Altogether, during the past year we have thus had three deaths from sinus suppuration.

TWENTY-SEVEN TRANSFUSIONS AT ST. LUKE'S HOSPITAL.*

By FAYETTE WATT BIRTCH, M. D., San Francisco.

In the past five years transfusion has been performed 37 times in St. Luke's Hospital, San Francisco. This discussion, however, will be confined to 27 cases which have been performed personally. The results of these cases have agreed in a general way with published statistics. The reports of various hospitals throughout the country show many deaths occurring from hemorrhage, shock, and hemopoetic diseases in which no transfusions had been done. A wider appreciation of the value of transfusion in these conditions is necessary, yet in our eagerness to bring transfusion into its proper relation with other therapeutic measures (for the relief of these conditions) the pendulum must not be caused to swing too far. Transfusion is no panacea and should not be selected where the indications are not clear cut, and not only do certain definite dangers result from its misapplication but untoward consequences may follow its legitimate use.

In all of the cases in this series, the method employed has been direct transfusion. A radial artery has been connected to a superficial vein by means of the Brewer or Pope tube. The time during which the blood has been permitted to flow from donor to recipient has varied greatly. This has depended upon the size of the tube used, the donor's blood pressure, his heart rate, the physical condition of the recipient, and the symptoms which develop during the operation. The method described by Libman and Ottenberg for calculating the amount of blood transfusion has not been used as a routine matter. The hemoglobin of the patients has been frequently recorded during the process of transfusion and has been found to in-

* Read before the San Francisco County Medical Society, February 15, 1916.

crease from 10% to 40% while he is on the table. If no subsequent bleeding occurs, the hemoglobin is generally from 5% to 20% higher on the following day.

In none of this series has any of the surgical accidents occurred as emboli, local infections, hemolysis, or over-transfusion with its train of symptoms of cardiac dilatation, edema of the lungs, tender, tense abdomen, enlargement of the liver and spleen, and finally a rupture of the abdominal viscera. Nevertheless, some of the bloods of these cases seemed to be incompatible without showing signs of hemolysis. In three such cases, immediately after transfusion, the patient developed a severe chill and high temperature. The temperature, however, subsided in about 12 hours. Where time would permit, the examination of prospective donors has consisted in the taking of a history, physical examination, Wassermann reaction, hemolytic tests, and ordinary blood examinations, paying particular attention to leukocytosis, lymphocytosis, eosinophilia, parasites, etc. It was not found possible to make all of these examinations in nine of our emergency cases. Under these conditions, relatives of the patients were always used as donors and no harmful results were observed from the transfusions. In several of the less urgent cases where it was not possible to obtain donors from among relatives or friends, one was secured through an (see charts) employment agency.

A summary abstract of the transfusion cases will now be given.

The typhoid case which continued to bleed after the transfusion, died a few hours later. This transfusion was undertaken late. The patient was very restless and increased the difficulty of the operation. Consequently, the transfusion was poorly done, and only a small volume of blood was injected into his vein. With a better transfusion performed at an earlier date, the patient undoubtedly would have had a much better chance of living.

The case of placenta previa also might have been saved had the transfusion been started before the extraction of the child and the placenta. The patient lost a large amount of blood during the delivery. Transfusion was undertaken immediately but the patient lived only two or three minutes after transfusion had started.

The case of sepsis with a hemorrhage from the bowels was of interest. The blood transfused was from the patient's son and had been previously tested in the ordinary way; yet this case developed the most marked reaction in the form of a chill and fever of any of the series.

The cases transfused to minimize surgical risk were quite satisfactory. While four of the 12 died, the eight made good recoveries. Of those who died, one succumbed to an embolus; one with recurrence of the hemorrhage on the third day; one death was complicated with preexistent sepsis and lues, and the fourth died with signs of hypostatic pneumonia.

The cases transfused for diseases of the blood, although showing a slight benefit, were on the whole unsatisfactory.

12 CASES TRANSFUSED TO MINIMIZE OPERATIVE RISK
Summary: 8 Cases Benefited, 3 Not Benefited, 1 Doubtful

Diagnosis	Complications	Before Transfusion		After Transfusion		Operation 48 Hrs. After Transfusion	Pulse at End of Oper.	Shock	Final Result
		H.B.	General Health	H.B.	After 24 Hrs.				
Fibroid Uterus	Uterine hemorrhage	42	Poor	55	60	Hysterectomy	92	No	Cured
Fibroid Uterus	Uterine hemorrhage	27	Poor	65	77	Hysterectomy	100	No	Cured
Fibroid Uterus	Uterine hemorrhage	34	Poor	59	65	Hysterectomy	100	No	Cured
Carcinoma of Uterus	Uterine hemorrhage	45	Cachectic	68	65	Hysterectomy	92	Yes	Death
Carcinoma of Uterus	Uterine hemorrhage	38	Debilitated	50	65	Hysterectomy	98	No	Lived 7 months
Papilloma of Bladder	Blood in Urine	10	Debilitated	40	65	Suprapubic Cystostomy	90	No	Died 7 mos. Carcinoma
Ulcer of Stomach	Gastric hemorrhage	21	Collapse	40	62	Gastro-enterostomy	130	Yes	Died 3 days later
Miscarriage	Uterine hemorrhage	20	Collapse	30	25	Curettage	130	Yes	Cured
Post-partum Hemorrhage	Sepsis and lues	15	Poor	25	30	Curettage	108	Yes	Died 10 hrs. later
Pernicious Anemia	Mental disturbance	30	Poor	45	60	Splenectomy	100	No	Died 24 hrs. later
Ectopic Pregnancy	Abdominal hemorrhage	30	Poor	75	75	Salpingectomy	120	Yes	Cured
Abortion, Incomplete	Uterine hemorrhage	10	Collapse	48	55	Curettage	130	Yes	Cured

4 CASES TRANSFUSED FOR SURGICAL SHOCK

3 Benefited, 1 Not Benefited

Diagnosis	Operation	Condition	Before Transfusion	12 Hrs. After Transfusion	Result
			Pulse	Pulse	
Ectopic Pregnancy	Salpingectomy	Shock	148	102	Cured
Fibroid Uterus	Hysterectomy	Shock	No radial	...	Death
Ectopic Pregnancy	Salpingectomy	Shock	150	96	Cured
Incomplete Abortion	Curettage	Shock	180	84	Cured

4 CASES TRANSFUSED FOR DISEASES OF THE BLOOD

3 Benefited, 1 Not Benefited, 1 Not Decided

Diagnosis	Complications	Before Transfusion	After Transfusion	Result
		HB.	HB.	
Pernicious Anemia	Paralysis	25	40	Died 18 days later
Purpura Hemorrhagica	Epistaxis, 12 hrs.	70	70	Hemorrhage stopped
Secondary Anemia	None	32	40	Slight improvement
Aplastic Anemia	None	11	45	Too early to decide

7 CASES TRANSFUSED FOR ACUTE HEMORRHAGE WITH COLLAPSE

5 Benefited, 2 Not Benefited

Diagnosis	Condition	Before Transfusion	After Transfusion	Condition	Operation	Result
		HB.	HB.			
Intestinal Hemorrhage with Typhoid Fever	Collapse	38	40	Unimproved	None	Death
Uterine Hemorrhage with Abortion	Collapse	10	50	Revived	Curettage	Cured
Uterine Hemorrhage Placenta-praevia	Collapse	—	—	Unimproved	Cesarean Section	Death
Sepsis with Hemorrhage from Bowels	Collapse	32	52	Improved	None	Cured
Hemorrhage from Laparotomy Wound	Collapse	38	55	Improved	Sutured	Cured
Uterine Hemorrhage with Abortion	Collapse	20	40	Improved	Curettage	Cured
Uterine Hemorrhage with Abortion	Collapse	50	50	Revived	Curettage	Cured

Those cases transfused for shock demonstrated the value of this procedure in this type of case.

Of the 27 cases transfused, eight were failures. At least one-half of this number could have been benefited had I decided that transfusion was necessary and performed it earlier. In the beginning of this work, too great dependence was placed on salt solution, caffein, adrenalin, etc., to revive patients with hemorrhage and shock. It has been my observation that this waiting, procrastinating and temporizing method is the general plan adopted by the profession, for during the past few years, patients have been brought to the hospital mori-

bund from acute hemorrhage, others have developed acute hemorrhage while in the hospital, and a few have had post-operative shock. Many of these died, without transfusion being suggested. What is more to the point, the annual report of one of our largest and best American hospitals shows that 18 out of 158 surgical deaths were due to hemorrhage, shock, and hemorrhage with shock. In these cases it was not recorded that transfusion had been performed. It is hard to conceive why trained surgeons omit this important therapeutic agent and permit as high as 10% of their surgical cases to die, when it is an established fact that many of

this 10% could be saved by transfusion. There is no more excuse for a surgeon permitting his patient to die from shock or hemorrhage without giving him the advantages of transfusion than there is for a physician who fails to administer antitoxin in a case of diphtheria.

Transfusion should be looked upon not only as a method for reviving moribund cases with hemorrhage and shock, but also as the best prophylactic measure in preventing these conditions in individuals who are anemic, depleted, and weakened by disease. Many of these after transfusion are enabled to well withstand major surgery.

Just as soon as surgeons accept transfusion as a routine measure in the cases of these handicapped patients, just so soon will the now high operative mortality in these cases be lowered.

A CONSIDERATION OF SOME NEUROLOGICAL CONDITIONS IN CHILDREN.*

By HAROLD W. WRIGHT, M. D., San Francisco.

For purposes of convenience we may divide these conditions into those occurring most frequently in (a) infancy, (b) childhood, and (c) adolescence. In looking up the various disorders of a nervous character in children one is surprised to note how many there are and how many more occur as the period of early childhood is passed and the periods of pre-adolescence and adolescence are reached.

INFANCY.

Of those disorders occurring in infancy—i. e., under three years of age—the writer would speak first of recurrent convulsions and their relation to brain lesions of a vascular or inflammatory nature, and of their relation to ricketts, toxemia and other causes of unstableness in the cortical neurones.

The relation of hemorrhage to convulsions and other cerebral deficiencies in infants: Hemorrhage from the smaller meningeal vessels is fairly common during the process of a difficult birth, but there would seem to be considerable doubt as to the frequency of lasting brain defects from this source unless there is also a laceration of brain tissue or a severe asphyxia of the cortical cells. The skull of the fetus is remarkably plastic and will bear without consequent brain damage a tremendous amount of pressure as is shown by the numbers of children who are born by instruments without subsequently having convulsions or other evidence of brain injury; furthermore, hemorrhagic effusions are absorbed before the cranial sutures are united, therefore before much pressure can occur. Hemorrhage from the large venous sinuses may occur, however, and cause severe brain pressure, the symptoms of which may not appear *until several weeks later*. When birth is especially difficult the cause is either in the anatomy of the mother's pelvis and the physiology of her musculature or in the unyielding character of the child's cranium due to hydrocephalus or to premature ossification of the sutures. If the fault is with the cranium there is apt to be already a developmental defect which manifests itself sooner or later by convulsions,

idiocy, imbecility, spastic paralysis, ataxia or only a mild degree of mental deficiency.

It is in older infants, those beyond the eighteenth month, that convulsions are apt to be the symptom of vascular lesions, either because of an hemorrhagic tendency aggravated during some toxic illness or because of encephalitis; the subsequent cerebral impairment is then the result of vascular lesions, hemorrhagic, thrombotic, or embolic in nature, and the convulsions are symptoms of these lesions. It is very doubtful if convulsions are ever the cause of cerebral hemorrhage. Encephalitis is probably the most frequent cause of both. Frequently before any convulsion has occurred there will be other signs of cerebral hemorrhage or thrombosis; the writer recalls such a case in which during the course of several weeks there was a slowly progressive hemiplegia, first the leg and later the arm and face becoming paretic and convulsions being the last symptom to appear. (This patient gave a history of an hemorrhagic eruption under the skin previously and of being an easy bleeder.)

What is the prognosis as regards the recurrence of convulsions? In those in whom convulsions occur soon after birth we are justified in expecting their recurrence from trivial causes, because of the probable damage already done or the defect already existing in the cortical neurones. In those cases of convulsions which occur in the later months of infancy after we have already had evidence of a normal cerebrum the chance of their recurrence will depend upon the extent of the vascular lesions as shown by the neurological findings; where the findings point to a sub-cortical lesion the symptoms of which do not progress, the chance of recurrence is very slight and will depend largely upon the prevention of causes of toxemia, scorbutus or nervous exhaustion.

Another cause of convulsions in infants is brain abscess, and this condition should always be under suspicion. Brain tumor may also be a cause, but in infants a tumor of the brain is usually a tuberculoma and the forerunner of tuberculous meningitis.

THE RELATION OF RICKETTS TO NEUROLOGICAL SYMPTOMS.

In ricketts we have a defective organization of all connective tissue. Whether or not nervous symptoms will occur in ricketts would seem to depend upon whether the white matter—i. e., the myelin—of the nervous system is defective. We have an analogous condition in various brain lesions where these fibers are interfered with as shown by increased reflexes, spontaneous tremors, or ataxic tremors, and we know that the increased activity of the reflex arc subsides when the Babinsky reflex, normally present in infants for the first few months, disappears—i. e., when myelinization is completed.

Spasmodic croup, convulsions, nodding spasms, pseudo-spastic contractures of the limbs or general irritability may be the only signs of the presence of ricketts. In connection with this disease one is also reminded of the pseudo-paralysis of rachitic children. For example, a child is brought to the clinic because, although two years of age, it does

* Read at meeting of Fresno County Medical Society, Sept. 7, 1915, and at the meeting of the San Francisco County Medical Society, Nov. 2, 1915.

not sit up alone and does not walk, there may be also noticed a great deal of stiffness in the hamstrings and the flexors of the thighs; the mother is particularly concerned about the child's spine which she has been told is diseased; the examination reveals only a mild degree of rickets and a good prognosis can be given in spite of the presence of muscular atrophy sometimes seen in rickets.

CEREBRAL PARALYSIS.

The term "cerebral palsy" is in the minds of most physicians synonymous with that form of spastic paralysis known as "Little's disease," but there are many other forms differing from each other according to the location of the developmental defect or the lesion responsible for the paralysis. Many of these cases are the result of encephalitis in utero or soon after birth. Cerebral paralysis does not necessarily imply either spasticity or imbecility; there may be instead of spasticity a hypotonia with ataxia because of the cerebellum and the tracts ascending from it to the brain being involved. If the cortex of the frontal area is not involved, the intelligence may be normal or nearly so and increased emotional irritability may be the only psychic symptom.

In any case of cerebral paralysis it is important to accurately estimate the location of the anatomical defect and the mental status of the child, every case being given the benefit of doubt and carefully trained by special forms of education before declaring the child an imbecile. Because a child drools at the mouth, or has a defect of speech, or a spastic paraplegia, he is not necessarily uneducable; on the contrary he may be exceptionally bright in many other directions. Many such children have grown up apparently imbecilic because of neglect, just as many congenitally blind and deaf children. It must be remembered that Madame Montessori had such success with defectives that she was encouraged to pursue her methods with all sorts of children. It would seem that too little interest is taken in these cases by the medical profession; much time is spent in the examination and diagnosis of hopelessly advanced cases of organic nervous disease in adults while the deficient child is passed by with pessimistic shrug and not even an accurate diagnosis. When treating the paralysis of the extremities in cases of cerebral palsy it is very encouraging to observe the good results obtained by carefully supervised muscle training, especially in a child of fair intelligence. Unless the training is carefully supervised, the parent or teacher may waste time with antagonistic muscles which are already overactive. In this connection the importance of tendon lengthening or other orthopedic procedures upon permanently shortened muscles should not be overlooked, for such operations bring about rapid improvement in muscles which before had been useless.

The diagnosis of the cerebellar form of cerebral paralysis is made by the presence of hypotonia of the muscles and joints, especially those of the fingers and the spine, by inability to perform finely co-ordinated movements and by difficulty in maintaining balance in the sitting or standing position;

there may be a combined spasticity in the legs, which will confuse the picture.

Myatonia congenita (Oppenheim's disease) may be confused with the cerebellar form of paralysis and also with poliomyelitis. In all three diseases there is hypotonia and the child may be unable to walk; the differential diagnosis depends on the fact that in myatonia there is a general involvement of all the muscles of the extremities in weakness but not absolute paralysis, there is no true ataxia, and no marked atrophy of isolated muscle groups.

Mongolianism: This is a form of mental deficiency seen in infants which is sometimes confused with cretinism. The degree of mental impairment varies in mongolianism and is never as pronounced as in the cretin unless the latter is under treatment with thyroid extract, when rapid mental improvement occurs; in both diseases there is enlargement of the tongue, backwardness in learning to talk or walk, with dry skin and feeble circulation; but in the cretin there is a very pronounced sluggishness of temperament, whereas the mongolian is irritable and mischievous or at least responsive; the facial expression of the cretin is characterized by thickness of the lips and of the tissues under the eyes but no marked cranial deformity, whereas in the mongolian the cranium is small and flattened posteriorly, the eyes may be slanting, but the expression is much brighter than that of the cretin. Hypotonicity of muscles is a marked feature in mongolians. They are also capable of great mental improvement under special training.

THE PERIOD OF CHILDHOOD.

Headaches: This is a common complaint in children of five to twelve years. Headache may be the result of eye-strain, sinusitis, intestinal toxemia, cervical osteitis and arthritis, brain tumor or mental stimulation too great for a child essentially neurotic. The writer has in mind a child of six years who for a period of twelve months was treated for "eye-strain" before it was discovered that she had a brain tumor; it was then too late to prevent total blindness. More often headache is a symptom of intestinal indigestion with toxemia which may be present in spite of daily bowel evacuations; in such cases general nervousness and failure to get on at school may unjustly arouse suspicion of mental defect. Mental defect may also be wrongly ascribed to children suffering from eye-strain which no doubt is a potent cause of neurotic symptoms and of retardation in school children. In the essentially neurotic child headache should be the signal for withdrawing the child from all competitive school work and for keeping the child out of doors in a quiet environment. A little more care in the estimation of a child's natural capacity and more individual management to suit that capacity would prevent many of the nervous breakdowns which occur at adolescence or later; inspection of a school-child's mentality should not be confined to the application of Binet-Simon tests, so often made by the diletante in psychology and without the co-operation of a physician trained in mental diagnosis. In no other phase of child study is experience in mental disorders and the keen inspection which is

possible only after extensive study of such disorders so important and yet it is often relegated to laymen or neglected altogether.

Chorea: The chief reason for considering this familiar disease in a paper of this sort is that it may be confused with hysteria and that a transient paresis of a limb with the temporary loss of the tendon reflex may be the first and only symptom for several days.

Chorea and hysteria may exist in the same patient but wherever the movements are dramatic or confined to one limb and when there are evidences of emotional variability hysteria is to be suspected.

Habit spasms have to be differentiated from chorea. They are apt to occur at the same age, but they are more localized in certain muscles having to do with response to peripheral irritation and are often the result of what in the beginning was a conscious muscular contraction in children whose eyesight is strained or who have obstruction in the nasal passages. Later on the habit becomes unconscious and persists even after the removal of the exciting cause. Very often too these cases are essentially neurotic, and the habit spasm is only one of many nervous symptoms. A tic in older children, those beyond the age of puberty, is much more apt to be of psychic origin and a symptom of hysteria.

Hysteria is not an uncommon disorder in children, especially the hystero-epileptic form, but will be considered later under the disorders of adolescence for it is much more frequent in that period.

JUVENILE PARESIS AND TABES.

Before leaving the childhood period it is in order to mention that juvenile tabes and paresis may occur in very young children. The writer has seen a case of true general paralysis of the insane in a child of eight years and cases have been reported in even younger children. The correct diagnosis is often delayed because the neurological examination is incomplete. A child who presents any nervous symptom of an organic nature or one who is subject to frequent headache should have the pupillary reaction tested in a dark room, a Wassermann test of the blood and spinal fluid and a cell count of the fluid. The patient of eight years just mentioned had no pronounced mental defects for two years; there was a great deal of unrest and distractibility and a tendency to prevarication but no noticeable defect of memory or change of personality; the diagnosis was first made entirely on the signs of organic neurological disease and the findings in the spinal fluid.

THE PERIOD OF ADOLESCENCE.

Spinal cord tumor: This is not an infrequent disorder at this period and may for a time be confused with the form of paraplegia in tubercular caries of the spine and perhaps more frequently with osteo-arthritis of the spine; for in some cases of spinal cord tumor, notably the intra-medullary tumors, kyphosis and scoliosis may occur. In spinal cord tumors the first focal signs are nearly always sensory signs; in Pott's disease they are chiefly motor. There is rarely any muscular spasm in cord tumor although local tenderness may be found. Furthermore a tumor of the cord is

very often intra-medullary and therefore symptoms relative to the perception of heat and cold in the portion of the body corresponding to a particular spinal segment are early diagnostic features. Pain is not necessarily a symptom of spinal cord tumor unless the tumor first involves the posterior nerve roots. The only symptoms for many months may be a small area of anesthesia and paresthesia and a slight defect of gait, a tendency to stumble easily; later on if the tumor involves the medulla of the cord a slight scoliosis may appear, or a combination of scoliosis and kyphosis; but in this case the kyphosis is not sharp and angular but like that of a rachitic spine.

Osteo-arthritis of the spinal column offers more difficulty in differential diagnosis. The writer had under observation a girl of sixteen years who for several months was thought to have an osteo-arthritis of the cervico-dorsal spine and was treated for such by very able orthopedic surgeons. Later there appeared definite signs of involvement of the eighth cervical and first dorsal segments of the cord relative to the perception of touch, pain and temperature followed by gradually increased spasticity of the legs; laminectomy was performed and an intra-medullary tumor was found, but permanent damage to the cord had already been done. (See report of this case by Pearce Bailey in article on "Painless spinal cord tumors," *Journal of A. M. A.*, July 4, 1914.) On the other hand osteo-arthritis is not an infrequent disease of youth and how often in our general examinations we neglect the spine! Arthritis of the spine occurs in all degrees of intensity and varies as much in location. It may be quite extensive without pronounced deformity. Only a careful test of the spine's mobility will reveal the disease, for the X-ray is often negative. The symptoms of vertebral osteo-arthritis may be those of ordinary neuritis, sciatica, tumor of the cauda-equina, spinal cord tumor or progressive muscular atrophy. Its relation to focal infection is now well known.

Multiple Sclerosis: This disease may also be confused with spinal cord tumor, with brain tumor, with hysteria and juvenile paresis. In multiple sclerosis there may be for a time only a stumbling gait, a tendency to easy laughter and a peculiar hesitation in speech or an abrupt staccato speech. The diagnosis may be concluded by an examination of the optic discs which will show temporal pallor and central scotomata in the visual field; another early and confirmatory sign is an absence of the abdominal reflexes. When the cardinal symptoms of intention tremor, scanning speech and nystagmus are present there is, of course, no difficulty, but many cases do not show this classical syndrome. From brain tumor multiple sclerosis may be distinguished by the absence of headache, vomiting or choked disc, but in other respects the two disorders may be very similar in the early stages, especially if the tumor is in the frontal lobe for both conditions may cause absent abdominal reflexes, increased patellar reflexes and a facetious mental reaction.

HYSTERIA.

The difficulty of distinguishing hysteria from

epilepsy in some instances has already been referred to. In connection with hysteria one is reminded of the hysterical forms of joint contracture which may occur after an injury slight in itself but accompanied by fright or associated in some way with an unpleasant or impressive incident, either recent or remote.

One should beware of putting hysterical joints in plaster casts: such treatment will delay recovery from the hysterical contracture and may be the cause of other and worse symptoms by suggestion. In making a diagnosis between hysteria and other forms of nervous disease a careful history and estimate of the patient's personality is just as essential as an accurate observation of the attack or other objective condition. Some of the manifestations of this disease may be exceedingly baffling. The writer recalls a patient who besides contracture of the knee joint developed retention of urine, anesthesia corresponding at times to segments of the cord, although this shifted from day to day, a tremor at times resembling very much the intention tremor of multiple sclerosis, a staggering gait and exaggerated reflexes. Another patient, a girl of fifteen years, almost succumbed because of hysterical anorexia and vomiting; she became a living skeleton, was thought to have either tuberculosis or a malignant growth and came near having a laparotomy; then a correct diagnosis was made by a neurologist, but no improvement having occurred after many weeks her family sought an osteopath who was fortunate enough to have a convincing personality. After three seances of "spinal manipulation" the girl began to eat and to enjoy her food and from that time her recovery was rapid. In this case the cause as well as the cure of the disorder was mental suggestion. She had been getting rather stout and her school-mates ridiculed her so much that she gradually decreased the amount of food taken, later refused it altogether or if persuaded to take nourishment would vomit it almost immediately.

NERVOUS AND EXCEPTIONAL CHILDREN.

Out of the stress of modern life, especially in large cities, the "nervous" child is becoming a more difficult problem. It is not easy to determine how much of this is due to hereditary influences and how much to environment. Parents, teachers and physicians are too prone to blame hereditary factors and let it go at that, forgetting that children are exceedingly suggestible and imitative and that the mental environment of home and school plays a large part in the formation of future neuro-psychic characteristics. Children are not studied enough as individuals; if they do not conform readily to an average type their peculiarities are repressed, punished or over indulged rather than studied and directed. Repression and no expression results in nervous tension which reacts unfavorably upon the whole organism. The child is then labeled backward, deficient or incorrigible, but no attempt is made to adapt his education to his needs. We need to give more attention to the psychology of the adolescent for this period is the turning point for most children toward either success or failure, and they have at this time espe-

cially spiritual conflicts which react upon them physically and mentally.

In closing a few remarks upon the *psychoses of children* is in order. It is well to remember that every case of mental disease in an adolescent is not dementia precox,—or feeble-mindedness. Dementia precox is a clear-cut entity and probably a toxic-organic disease coming out of a clear sky; the child for some reason becomes stranded in development at the critical period of puberty or a little later. To what extent this is due to defects in the glands of internal secretion has yet to be determined. But there are other forms of insanity at adolescence almost as common as dementia precox, namely, acute mania and melancholia or a combination of the two in manic-depressive insanity, and the prognosis in these forms is favorable as to recovery from the attack. The prognosis in dementia precox is not necessarily bad in all cases; many become arrested and have remissions in the course of the disease or marked improvement may supervene and the patient may be able to return to normal life. Perhaps if these psychoses were recognized earlier and brought under institutional treatment earlier the percentages of recovery would be greater than statistics now show. This can be brought about only by better provision in our public schools and clinics for the expert detection of mental disease.

SOCIAL INSURANCE INQUIRY.

Under the auspices of the Committee on Insurance of the New York Chamber of Commerce, arrangements are being perfected for a comprehensive investigation into all essential phases of the subject of social insurance, between this and the next meeting of the New York legislature, with special regard to health insurance. Dr. J. F. Crowell, Executive Officer of the Chamber of Commerce, to whom communications may be addressed, will have charge of the inquiry.

It is the purpose of this committee to go extensively into the subject so as to have at hand the desired data and to avail itself of the gist of experience in this and other countries. This inquiry will extend not only to the actual developments in countries where health insurance has made some progress, but is intended also to include a critical examination of the conditions, causes and effects of the different systems with a view to their availability for American communities. It is intended to test the claims which existing systems made at the time of their origin in the light of results.

POVERTY AND TUBERCULOSIS.

Poverty and tuberculosis—tuberculosis and poverty! These are the essential facts which force themselves to the attention of every investigator who faces the problem of that disease. The tenement house district of Cincinnati yields a tuberculosis morbidity just three times as great as the areas where better housing prevails. In 197 families in which tuberculosis existed the average monthly income for a family of four was approximately \$57. After paying the pro-rata share for food and rent, a balance of \$5.13 remained for each individual to meet all other expenses. Such a low subsistence level works like black magic in the spread of tuberculosis. Moreover, and this is a point over which the public should ponder, the home of the average wage earner was found to be far less sanitary than the average factory and

workshop. In regard to all the factors which make for healthful living, ventilation, sufficient light, proper temperature, and freedom from overcrowding, the score was in favor of the factory in nearly every instance.

The city of Cincinnati realized that her tuberculosis death rate was 50 per cent. above the average and that it had failed to manifest a tendency to decline. She felt no qualms in making this admission. Rather, she determined that she would learn why, with an efficient health department and favorable climatic influences, she was suffering from twice the mortality from that disease as her neighbor, Pittsburgh. Accordingly the United States Public Health Service was requested to make a thorough study of the situation and submit a report. To show that something more than mere academic interest obtained, 19,932 workers in 154 factories of the city voluntarily submitted to a physical examination.

The conclusions reached, point directly to the close connection between poverty and tuberculosis. The great factor underlying the entire problem was seemingly that of economic conditions. One-sixth of all tuberculosis cases came from cheap lodging houses. Alcoholism was a prominent cause, and often accelerated the course of the disease. Occupational hazards and bad working conditions were apparently responsible for about 20 per cent. of the cases, but in the majority of instances these hazards were not necessarily inherent in the occupation. Previous tuberculosis in the family occurred in practically a third of all the cases investigated. Dissipation, overcrowding, bad housing, and innate lack of personal responsibility, were also listed as causes.

An interesting feature of the report, and one which has not previously been dwelt upon in studies of this character, relates to the effect of immigration and the rate of growth of the population of a city upon the tuberculosis death rate. It is shown that cities with a population composed largely of racial stock having a limited resistance to tuberculosis are subject to a high mortality rate from that disease, while centers having a slow rate of population increase are likewise subject to a high tuberculosis rate. The evidence is submitted in a comparative table covering sixteen American cities. Almost without exception those with a high percentage of Irish, Scandinavian and German stock, and those in which the negro population is relatively large, have a correspondingly high mortality, while those where the Italian and Jewish element is proportionately great have a low tuberculosis death rate. Similarly, such cities as Detroit and Cleveland, with high rates of population increase, show a low tuberculosis mortality, while Cincinnati and Baltimore with a relatively small population increase have a high tuberculosis rate. Doubtless the true explanation of this discrepancy is that advanced by the authors, namely, that where the population increase is rapid new buildings are erected to take the place of old insanitary structures and better housing conditions prevail.

A. M. A.,

DETROIT,

JUNE 12-16, 1916.

PLEASE !

LOOK FOR THE

NEW ADVERTISEMENTS

IN

THIS ISSUE !

THEY

WILL INTEREST

YOU

OWNERSHIP OF THE ROENTGEN RAY PLATES.

(From the Law Department, A. M. A.)

No cases can be found touching on this subject. A few cases have been found in regard to the ownership of photographic plates but even these are indefinite and uncertain in their meaning.

As regards photographic plates the court has recognized the fact that authorship and originality of intellectual creation have the right to protection. This gives a photographer the right to have ideas as exemplified by photography protected by law. But this position of the court does not import that a photographer has any title in the plates per se. His title is in the concept, with some exceptions. Whatever title a photographer may have in a photographic plate depends on the contractual relation between himself and the subject of the picture. When a person sits for a photograph he does not usually vest the photographer with the right to use the plate as he may see fit. The same may also be said of a person who permits a roentgenogram to be made of his body. The idea and method of posing belongs to the operator and the title of the plate in the absence of a special contract at least in so far as the absolute disposition is concerned belongs to the patient. The courts have held that a person may enjoin the use of their photographic likeness by a photographer when such use may cause them injury. Similarly a court might enjoin the use of a Roentgen Ray Plate by a physician who made it when the agreement with the patient was that the plate was to be used for diagnostic purposes only. But if there is a special contract in which the patient permitted the Roentgenogram to be made for such diagnostic and other purposes as the physician may see fit then there is for all practical purposes a vesting of title or at least user in the physician. The argument that the patient is not paying for the plate but only for the benefit he may derive from that method of diagnosis would only go the length of supporting a right to possession in the person making the plate and would not give that person the right to use the plate as he might see fit. The patient gives up his body for diagnostic purposes and that only. It

may be true that he cannot demand and obtain possession of the plate, but neither can the operator have an unlimited user. In reality, therefore, there is a joint ownership: the operator having perhaps the right to possession with a limited user as per contract, while the patient has a supervisory interest in the plate.

See the following cases:

- Am. Mutoscope Biograph Co. v. Edison Mfg. Co.*, 137 F. 262.
Itzrovitch v. Whitaker, 39 So., 499; 115 La., 479; 1 L. R. A., 1147.
Schulman v. Idem, 39 So., 707; 115 La., 628.
In re Whitaker Idem.
Burrow-Giles Lith. Co. v. Sarony, 111 U. S., 53.
Thornton v. Schrieber, 124 U. S., 612.
Nottager v. Jackson, 11 Q. B. Div., 627.

A TUBERCULOSIS STORY.

By E. M. BROWN, M. D.

A rancher living near Selma, Calif., following exposure, developed a severe bronchitis and in November of last year he lost his voice.

Thereupon, he rented his little farm, and with the money from this income he journeyed south in search of health. Note that no one, when he is able to get away, ever seeks health at home; it must be ever, like the will-o'-the-wisp, just a little farther on.

So the rancher arrived in Los Angeles.

It is difficult for any one, when tuberculosis cannot be called by some other name, to obtain lodging in our city; not because their money is covered with "disease germs," for here, as elsewhere, we take money from any one without question. It has a value too alluring to be refused, even by the most fastidious. The difficulty lies in the fear of losing still more money by the loss of other roomers who may leave because a "lunger" is in their midst.

Never mind the fact that most of the other lodgers are health seekers also, theirs may not be so apparent, and asthma, bronchitis, stomach-cough, water brash and catarrh have not the villainous sound that tuberculosis has to most of us.

Our rancher's first stopping place was the Hotel R—, where he lived for two weeks; then the air of this small hotel room not producing the desired beneficial effects hoped for, he took lodgings at F street, where he lived three months, but health still beckoned, so he decided the ——— Hotel on Pasadena avenue had a more salubrious atmosphere and remained there three weeks before he became convinced that his throat was no better and moved out to Glendale and tried the sanitarium there for two weeks.

Here, for the first time in his wanderings, was he properly instructed in matters of personal hygiene, told how he could avoid infecting others, and made to feel that he really was not pariah, but a man more unfortunate, as far as his condition was concerned, than most others, while being far less dangerous because properly instructed.

The expense of sanitarium life was prohibitive, so he returned to his former rooming place at F street, remained there eighteen days, and then on medical advice went to the County Hospital. He was able to remain there but eight days because of the villainous food offered him, and the progressive loss in weight hustled him out. He took a room at Highland Park, but the landlady fired him after two days because she was afraid of his condition. So, once more he moved into town, to the ——— Hotel, where after one week he gave up his search for health and returned to his ranch in Selma.

Who followed him in those eight different beds occupied while in our beautiful city?

Sputum examination showed an average of five tubercle bacilli per field. How many people did he infect before he was properly instructed?

Who is to blame?

The rancher, because he came south in search of health?

The landladies who received him?

The doctor who told him he had bronchitis?

The health officer, for not meeting him at the train?

The commonwealth of California for neglect?

All of us for our indifference?

You answer, when you are sure you are right.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Styracol Tablets, 5 Grains.—Each tablet contains 5 grains styracol. Merck and Co., New York.

Tannalbin Tablets, 5 Grains.—Each tablet contains 5 grains tannalbin. Merck and Co., New York.

Stanolind Liquid Paraffin.—A non-proprietary brand of liquid petrolatum, complying with the standards of the U. S. P., 8th ed. and made from American petroleum. Standard Oil Company of Indiana, Chicago (Jour. A. M. A., April 1, 1916, p. 1027).

Items of Interest.

Emetin Hydrochlorid Variable.—It should not be taken for granted that because a drug bears the name of a definite compound it is true to name and pure, and therefore trustworthy in its action. This fact has recently been demonstrated in regard to emetin hydrochlorid. Two cases in which the administration of emetin hydrochlorid produced symptoms of poisoning (one terminating fatally) at the Johns Hopkins Medical Clinic led to an investigation by R. L. Levy and L. G. Rowntree in which the emetin hydrochlorid preparations of five pharmaceutical houses were used. This investigation led to the conclusion that the products supplied as emetin hydrochlorid are variable in composition and in toxicity to a degree which constitutes a serious danger. It behooves physicians to insist on some declaration from the firm supplying emetin hydrochlorid as to its purity and as to the standard employed. Levy and Rowntree emphasize also the fact that emetin hydrochlorid medication itself is not an innocuous procedure. To avoid the toxic effects of emetin, the dosage should be carefully adjusted for each individual, and the treatment should be given in courses at intervals of several days or a week. The subcutaneous method of administration is to be preferred (The Archives of Internal Medicine, March 15, 1916, p. 420).

Emetic Action of Strophanthus Not Due to Oil.—Hatcher and Eggleston have shown that the digitalis bodies produce nausea and vomiting through action on the medulla and that the direct action on the mucous membrane of the stomach is unimportant. They demonstrated that the fixed oil (fat) of digitalis produced no action and conclude therefore that attempts to avoid the emetic action of digitalis by removal of oil from digitalis preparations is of no avail. Similarly Hatcher has recently determined that the oil contained in strophanthus is not the cause of the nausea sometimes produced by this drug. While removal of the oil renders tincture of strophanthus more "elegant" pharmaceutically, such removal is of no

therapeutic importance (Jour. A. M. A., April 15, 1916, p. 1199).

Piperazin, Lysidin, Lithium Carbonate, Sodium Bicarbonate and Sodium Citrate as Uric Acid Solvents.—H. D. Haskins has studied the uric acid solvent power of urine of persons taking the various substances classed as uric acid solvents. The investigation led to the following conclusions: 1.—Piperazin can cause the urine to dissolve more uric acid than it would without the drug, and this effect is most marked if sodium citrate or bicarbonate be also given and if diuresis be avoided. 2.—Lysidin can act as a uric acid solvent but is not a practical therapeutic agent because of the large doses required. 3.—Lithium carbonate is a uric acid solvent if large enough doses are used, but is unsafe and possesses no advantage over sodium citrate or bicarbonate. 4.—Sodium citrate and bicarbonate are reliable and satisfactory uric acid dissolving agents when given in such dosage as to keep the urine alkaline (The Archives of Internal Medicine, March 15, 1916, p. 405).

Prescribing of Narcotics.—The Harrison Antinarcotic law exempts from its operations ready-made mixtures containing specified small quantities of narcotics, but requires physicians' prescriptions containing small amounts of narcotics to be registered. The law should be made consistent by requiring the registration of all prescriptions containing narcotics in any amount. The inconsistency in the law should be removed prohibiting absolutely the sale, except on a physician's prescription, of preparations containing narcotics in any proportion. The continued uses of small doses of a narcotic drug is just as capable of establishing the habit as is the use of larger doses (Jour. A. M. A., April 8, 1916, p. 1158).

Why Glycerophosphates?—The glycerophosphates are split up in the intestines into ordinary phosphates and absorbed and utilized, if they are utilized at all. There is no evidence that glycerophosphates have any pharmacologic action to warrant the belief that they are of use as therapeutic agents. The belief in their value is kept alive by the promotion of certain proprietary mixtures. The glycerophosphates will be continued to be manufactured until physicians refuse to prescribe them. A manufacturer has even substituted glycerophosphates for the potent yellow phosphorus in his elixir of phosphorus, nux vomica and damiana and, so his chemist reports, physicians continue to prescribe the proprietary the composition of which has been altered (Jour. A. M. A., April 15, 1916, p. 1205).

A Much Needed Pharmacologic Investigation.—J. D. Pilcher, University of Nebraska College of Medicine, has investigated the action on the uterus of the guinea pig of a number of drugs which are widely used as ingredients of proprietary "female remedies," and which so far have been little, or not at all, studied. Blue cohosh (*Caulophyllum thalictroides*) showed a variable tonic effect. Pulsatilla (*Anemone pulsatilla* or *Pulsatilla pratensis*), unicorn root (*Aletris farinosa*), figwort (*Scrophularia marylandica*), valerian (*Valeriana officinalis*) and skullcap (*Scutellaria lateriflora*) were more or less depressant. The following drugs gave negative results: cramp bark (*Viburnum opulus*), black haw (*Viburnum prunifolium*), swamp maple (*Acer spicatum*), false unicorn (*Chamaelirium luteum* or *Helonias dioica*), liferoot (*Senecio aureus*), wild yam (*Dioscorea villosa*), motherwort (*Leonurus cardiaca*), passion flower (*Passiflora incarnata*) and squaw vine (*Mitchella repens*). It is to be hoped that Pilcher's work will permit the formation of an opinion as to the therapeutic value of those drugs in which some degree of activity has been found (Jour. A. M. A., April 15, 1916, p. 1205).

Diarsenol.—Dr. E. H. Martin, Hot Springs, Ark., reports that, after giving several hundred doses of Diarsenol without any bad effects whatever, he had two cases in which nausea, vomiting and symp-

ptoms of apparent collapse such as have been previously reported by another writer. He found on investigation that the specimens which in his hands gave untoward results as well as those previously reported on and two further accidents were all due to a product bearing the same lot number (Jour. A. M. A., April 8, 1916, p. 1155).

Elixir Calcylates Compound.—Each dessertspoonful of this specialty is said to contain the "equivalent of" Calcylates (calcium and strontium disalicylate) 5 grains, resin of guaiac $\frac{1}{2}$ grain, powdered digitalis leaves $\frac{1}{4}$ grain, powdered squill $\frac{1}{4}$ grain, extract of colchicum seed $\frac{1}{4}$ grain, cascara 1-16 grain, aromatics. One or two dessertspoonfuls are to be taken three to four times a day. The mixture is to be given in cases of "rheumatism, lumbago, neuralgia, sciatica, etc." If a salicylate is indicated it should be given in sufficient amount in the form of sodium salicylate; the patient should not be given a preparation containing ingredients in the way of guaiac, squill and colchicum which are not needed. Digitalis is rarely indicated in inflammatory rheumatism and it should never be given in a multiple mixture (Jour. A. M. A., April 22, 1916, p. 1307).

Cactus Compound Pills.—A pharmaceutical firm makes Pills Cactus Compound (Heart Tonic) each of which is said to contain: "Cactus grandiflora $\frac{1}{2}$ gr., Sparteine sulphate 1-40 gr., Digitalin, pure (German) 1-125 gr., Strychnine sulphate 1-500 gr., Glonoin (nitroglycerin) 1-500 gr., Strophanthin 1-5000 gr." The combination is irrational and the dosage of the individual drugs, in most instances, absurdly small. Every one of the ingredients except digitalin may be disregarded either because of inertness or because of the small amount present, and the treatment then becomes one of digitalis. The selling name of "Cactus Compound" is a misnomer as the activity of the pill is that of the small dose of the digitalis glucoside. The pill is an illustration of how worthless drugs are perpetuated. At one time it was thought that cactus had therapeutic value. During that time many "specialties" and proprietaries bearing its name were put on the market. Although the drug is now known to be worthless, these specialties continue to be sold (Jour. A. M. A., April 29, 1916, p. 1387).

ANOTHER RAP AT THE PUBLIC HEALTH DEPARTMENT.

(From the Journal of Maine Medical Association.)

The following joint resolution has been introduced by Senator John D. Works, of California:

Whereas, The American Medical Association is a national organization of physicians and surgeons of one school of medicine only and intended to advance the personal and private interests of its members; and

Whereas, One of the objects of said Association actively and aggressively prosecuted is to procure legislation, state and national, in the interest of the school of medicine represented by it and against all others; and

Whereas, The Public Health Service of the United States is intended to represent all classes of people of all medical or non-medical beliefs in national and interstate affairs; and

Whereas, The surgeon general of the Public Health Service has been elected president of the said Association and other officers of the Service have become members thereof; and

Whereas, It is believed that the best interests of the Public Health Service and of the people require that its officials and employees be free from influence or control by any school of medicine, or mode of healing; now, therefore,

Resolved, That it shall be unlawful for any officer or employee of the Public Health Service of the government to be or become a member or officer of, or in any way connected with, any medical or private health association or organization of any kind.

Dr. Rupert Blue, surgeon general, is president-elect of the American Medical Association. This is purely an effort on the part of the medical profession of this country to honor Dr. Blue and to show our appreciation of the great work which he has done.

The Senator who introduces this resolution has opposed all efforts to improve the condition of the Public Health Service, and is an ardent advocate of Christian Science. This latter fact does not react in any way so far as the medical profession is concerned, as we are accustomed to take a man at his true value, and judge him only by his individual acts, as a citizen in his community.

These resolutions not only require the surgeon general, but all surgeons in the Public Health Service, to terminate their membership in the various medical societies. Probably no one factor has worked to greater advantage to the country as a whole as the affiliation of the Public Health Service working jointly with the American Medical Association and other such organizations. Outside of our cities the public health matters are left in the hands of some local physician and the community is dependent upon him. If you will read these resolutions carefully, they seem to have an element of justice in them, and it forces one to realize that the present age or generation demands a more exact and businesslike relationship between the physician and the public rather than the ethical one which has always dominated this body of men.

It is no longer possible to go before a legislative body or city government and secure the passage of ordinances or acts aimed towards the betterment of public health on the merits of the case alone. It is time that the medical profession should give more thought to these matters and endeavor to see them in their true light.

It has been stated by an eminent legislator that the physician can be the most powerful factor in his community, and, should he so desire, could control more votes than any man outside of politics. Whether this be true or not, it would seem advisable to talk these matters over with the members of our Legislature and Congress, and endeavor to give them the true aims of the medical profession.

DINING CARS.

The dining car department of the American railroad, one of the big elements in the luxury of passenger service, is a bigger institution than the average traveler imagines. An idea of its magnitude and importance may be gathered from figures gathered by Superintendent Allan Pollok of the Dining Car and Restaurant Department of the Southern Pacific.

"The Southern Pacific," says Mr. Pollok, "has 105 diners, 63 buffet cars, four cafe cars and one lunch car. Its dining car mileage last year was 10,832,847 and 3,207,353 persons were fed on the diners. We have 107 commissary employees, 824 car employees, 80 stewards, 327 cooks, 367 waiters and 52 porters. In equipment we use 65,625 pieces of silver, 131,797 napkins, 36,098 tablecloths, 19,425 pieces of glassware and 71,820 pieces of chinaware. On the diners we used last year 636,732 pounds of fresh meat, 189,804 pounds of poultry, 17,436 gallons of cream, 123,436 gallons of milk, 36,000 loaves of bread and 85,846 dozen eggs. On the steamers we served 1,101,015 meals, using 120,792 pounds of fresh meats, 1200 pounds of poultry, 1200 gallons of cream, 38,687 gallons of milk, 24,624 pounds of butter, 31,442 dozen eggs and 82,254 loaves of bread. Our fifteen restaurants, alone, served 1,612,293 meals.

All purchases for the department are made at headquarters on the tenth floor of the Flood building, San Francisco. Goods purchased in carloads are delivered to the general store at Kirkham street, West Oakland, where complete stock to the value of over \$100,000 is maintained, and

from there shipped, in small quantities, to the different points.

The chief commissaries are at West Oakland yards, Northern lines; Los Angeles, Southern lines; Ferry building, San Francisco, for steamers and ferries; Houston for the Sunset lines.

Other commissaries are situated at Third and Townsend streets, San Francisco; New Orleans, San Antonio, El Paso and Ogden.

The Los Angeles commissary is the latest—having been completed in June, 1914. It is without doubt the most convenient and complete one in the country.

The preserved fruits and vegetables are the best that money can buy. The butter is especially prepared for our service. Eggs are received from the farm at different points daily. All pies and rolls are baked either in our commissaries or in our cars. Cream is delivered in one-gallon, non-returnable tins. It is pasteurized and tested every morning at the commissary and once a week samples are sent to the University of California and there tested.

SACRAMENTO COUNTY.

The regular April meeting of the Sacramento Society for Medical Improvement was called to order at 8:30 p. m. by President J. H. Parkinson.

Minutes of the past meeting read and approved. Reports of cases:

Muscular Dystrophy (?) by F. F. Gundrum, M.D.

Fracture of Hip, by J. B. Harris, M.D.

Paper of the evening—Servian Experiences, by S. O. Beasley of San Francisco.

Report of delegates postponed until supper time.

Report of Committee on Formation of Medical Milk Commission made by Dr. E. W. Twitchell, chairman.

Recommended that committee be formed for the certification of milk which committee shall attend to proper details for establishing its own standing, state and national. This committee shall be appointed by the chair. Probably (1) tuberculin testing, (2) bacterial count, (3) scoring may be secured through state, county and city officers at no expense to the society. Dr. Twitchell, chairman. Moved and seconded report be received and recommendation concurred in; carried. Moved and seconded chair appoint committee as outlined by Medical Milk Committee, carried. Dr. Parkinson appointed Drs. E. W. Twitchell, chairman; J. W. James, T. J. Cox.

Drs. Phillip G. Young, Timothy Lyman and J. Wm. Crawford elected to membership.

Adjourned at 11:30.

F. F. GUNDRUM, M.D.,
Secretary-Treasurer.

SAN JOAQUIN COUNTY MEDICAL SOCIETY.

The regular monthly meeting of the San Joaquin County Medical Society was held on Friday evening, April 28th, at the Chamber of Commerce quarters. Those present were Drs. F. P. Clark, E. A. Arthur, C. R. Harry, C. F. English, B. J. Powell, H. J. Bolinger, L. Dozier, J. T. Davison, W. F. Priestly, J. D. Dameron, R. T. McGurk, J. V. Craviotto, B. F. Walker, S. E. D. Pinniger, Margaret Smyth, Minerva Goodman, W. J. Backus, H. E. Sanderson and D. R. Powell with Dr. S. O. Beasley of San Francisco as guest of the evening and about forty invited guests from the training schools of the various hospitals and ladies of the Red Cross.

President Clark called the meeting to order at 9 p. m. and introduced Dr. Beasley, who had but recently returned from six months' service with one of the American Red Cross units in Belgrade, Servia. Dr. Beasley gave a wonderfully interesting talk upon first hand experiences in the war-stricken country, dealing particularly with the hospital service in handling the wounded and thousands of the typhus cases.

At the close of Dr. Beasley's talk, the president

called for the reports of the delegates to the State Society, and the meeting adjourned at 11 p. m. after a vote of thanks to Dr. Beasley for his courtesy in making the trip to Stockton.

DEWEY R. POWELL,
Secretary.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of April, 1916, the following meetings were held:

Tuesday, April 4th, Section on Medicine.

1. Sacro-Iliac Slip. Presentation of Case.—J. T. Watkins.
2. Exfoliative Dermatitis Following Neosalvarsan Injections.—René Binc.
3. Gastric Atony.—W. F. Cheney.
4. The Treatment of Arthritis.—C. C. Crane.
5. Importance of the Anamnesis in Diagnosis.—A. Marion Reed, Clyde T. Wetmore.

Tuesday, April 11th, General Meeting.

1. High Calorie Feeding in Typhoid Fever in Children.—H. H. Yerington.
2. Some Conditions Underlying Gastric Peristalsis.—W. C. Alvarez.
3. Modern Medicine in Warfare.—B. Jablons.

April 25th, Joint Meeting with California Pediatric Society.

The Problem of the Defective Child.—Alexander Johnson, of the Vineland Institute for Feeble-minded, Vineland, N. J.

SISKIYOU COUNTY.

Until the May Journal came out I was under the impression that I had reported our last medical meeting. This meeting was held at Peters and DeWitt hall, April 3rd. Dr. C. W. Nutting, Sr., gave a very interesting talk on "Fractures," being made more interesting by the recitation of personal experiences.

It was moved and seconded and ordered that the resolutions passed by the Southern Medical Society of Texas, asking for ample medical service in the increase to the United States Army proposed by the Administration, be similarly adopted. Copies were sent to the Secretary of War and the congress representatives of this district. The regular routine of business was carried out and several committees appointed. The next regular meeting will be held at Etna Mills on July 3, 1916. The meeting was then adjourned.

J. ROY JONES, Secretary.

REPORT OF THE MAY MEETING OF THE STATE BOARD OF HEALTH.

The regular monthly meeting of the State Board of Health was held May 6th, in Sacramento. There were present Dr. George E. Ebright, president; Dr. F. F. Gundrum, vice-president; Dr. Edward F. Glaser, Dr. Adelaide Brown, Dr. Robert A. Peers, and Secretary Wilbur A. Sawyer.

In order that there may be no pollution of water supplies above the intake of the Los Angeles aqueduct, Carl Wilson was appointed an inspector of the State Board of Health without pay, charged with the duty of enforcing State laws and regulations of the State Board of Health pertaining to stream pollution.

A petition from stockmen and citizens of Modoc County asking for a continuance of rabies eradication measures was read.

The following agreement with the Health Department of the State of Oregon regarding the transfer of sheep dogs, drawn up by the secretary, was confirmed by the Board:

"The California State Board of Health and the Oregon State Board of Health, in view of the

fact that an effective campaign for the eradication of rabies is being carried on in Modoc County (and also those counties bordering upon the state line which separates the two states, in which future eradication campaigns may be instituted), hereby subscribe to the following agreement permitting, under certain conditions, the taking of sheep-dogs across the California-Oregon boundary between the above mentioned counties, said agreement to go into effect April 7th, 1916: One sheep-dog, but not more than one, muzzled with an efficient wire-cage muzzle, and actually used in herding sheep, shall be allowed to cross the state line with each five hundred (500) sheep, provided that the herder in direct charge of the dog has in his immediate possession a signed permit for the dog from the proper authorities of the state into which the dog is being taken. The state authorities issuing the permit are to be the California State Board of Health and the Oregon State Board of Health, or their authorized representatives. The permit must contain an identifying description of the dog and the name of the owner of the sheep. All dogs taken from one state into the other are to be strictly controlled in accordance with the regulations in force in the state into which they are being taken, and state officers issuing permits are instructed to inform applicants regarding the regulations of the state into which the dog is to be taken.

"(Signed) DAVID N. ROBERG,
Oregon State Board of Health.

"(Signed) W. A. SAWYER,
California State Board of Health."

The failure of H. J. Curry, an undertaker of Martinez, to file a death certificate within the time prescribed by law was referred to the District Attorney for prosecution.

The case of John Slavin, keeper of the Russian Cemetery in Los Angeles, who allowed the body of a child to be buried in the above named cemetery without a burial permit, was referred to the District Attorney for prosecution.

The matter of the enforcement of the birth registration law was put over until next month for suggestions from the secretary. The matter of changing the present registration law so as to conform to the model law was referred to the secretary for deliberation and suggestion. It was suggested that five days be the time within which a birth must be reported.

The Board passed resolutions regarding the epidemic of scarlet fever in Auburn. These require that contacts be quarantined from school and public assemblies for twelve days and that the quarantine period shall be at least thirty days and until all clinical symptoms (ears, glands, nasal, or throat discharges, etc.), have subsided, and that physical examinations shall be made of all residents and employees of dairies supplying milk to Auburn.

The following resolution relative to the failure of five health officers to report the presence or absence of communicable disease was passed:

"Whereas, The following five out of 285 health officers of California have failed to file any reports regarding the presence or absence of communicable diseases during the present year in accordance with the law, although repeatedly warned; therefore, be it

"Resolved, That the local authorities be requested to remove them and appoint efficient health officers in their places and that the names of the five delinquents be published in connection with the minutes of this meeting as follows: Dr. D. L. Martin, Orland; Dr. T. K. McHugh, Rialto; Mr. James V. Chase, Mill Valley; Dr. J. A. Parks, La Mesa, and Dr. S. G. Bransford, Fairfield."

It was decided that in accordance with the rec-

ommendation of the Director of the Bureau of Sanitary Engineering, the use of the de la Guerra wells without chlorination is prohibited and until such time as analyses indicate that the entire Santa Barbara supply is safe, a temporary permit only be granted in answer to the application of the petitioner, the City of Santa Barbara.

The Board decided, in accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, that a temporary permit be granted to the city of Willows to dispose of its sewage on to the present 160-acre farm, pending the inauguration of more satisfactory methods of sewage disposal by the city.

It was decided that, in accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, a temporary permit be granted to the city of Holtville to dispose of its sewage as at present and that the matter of granting a permanent permit be deferred to allow the installation of improvements as outlined in the report of the Bureau of Sanitary Engineering, dated April 14th, 1916.

It was decided by the Board that, in accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, a temporary permit be granted to the city of Santa Barbara to dispose of crude sewage into Santa Barbara Channel as carried on at the present time, pending the formulation of plans and the construction of works as outlined in the report of the Director of the Bureau of Sanitary Engineering, dated March 6th, 1916.

The Board decided that, in accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, a temporary permit be granted to the Redding Water Company to continue to supply water to the city of Redding, and that action be deferred on the granting of a permanent permit until works which secure improvements equivalent to those recommended in the report of Mr. Ralph Hilscher of the Bureau of Sanitary Engineering, under date of April 6, 1916, have been installed.

Resolutions and application from the cities of Pasadena and Alhambra to construct and maintain a tri-city sewage disposal plant in the county of Los Angeles was referred to Mr. C. G. Gillespie for consideration and recommendation.

It was decided that the state tuberculosis subsidy be not allowed to patients suffering from tuberculosis and being treated in buildings other than those which have been accepted by the State Board of Health.

The president appointed the following committee to supervise the questions prepared by the Director of the Bureau of Registration of Nurses for the forthcoming examination to be held in Los Angeles, Sacramento and San Francisco, on June 13th and 14th: Dr. Adelaide Brown, Dr. Robert A. Peers and Dr. F. F. Gundrum.

In the matter of co-operation between the Bureau of Registration of Nurses and the State Civil Service Commission, it was decided that the holding of civil service examinations for state or county positions the examinations be given only in case the applicants are registered nurses or have applied in the regular way for examination to become a registered nurse.

In accordance with the recommendation of the Director of the Bureau of Registration of Nurses, the following applicant having complied with the law, Section 8, Chapter 319, and with the rules and regulations of this Board, was granted a certificate as registered nurse: Sister Emile Teresa Neidhamer, No. 5281.

The report of the Food and Drug Inspection Committee for April was received and the action contained therein approved.

The Board then considered the violations of the Food and Drugs Act set for this date.

PUBLICATIONS

Mosquito Control in Panama. The Eradication of Malaria and Yellow Fever in Cuba and Panama. By Joseph A. LePrince, C. E., A. M., Chief Sanitary Inspector, Isthmian Canal Commission 1904-1914, and A. J. Orenstein, M. D., Asst. Chief Sanitary Inspector, Isthmian Canal Commission. G. P. Putnam's Sons, 1916.

We have all been hearing and reading, for a number of years past, of the wonderful achievement in sanitation which we Americans have been accomplishing on the Isthmus of Panama under the leadership of Colonel (now Surgeon General) Gorgas, but heretofore we have not had set before us the exact mechanism of this work.

The present work, "Mosquito Control in Panama," contains the accumulated experiences of over ten years of mosquito eradication work carried out under the most varied and difficult conditions imaginable. The constantly high temperature, frequent rains, tropical vegetation, accidents of terrain, and above all, a constantly and kaleidoscopically changing surface due to the engineering portion of the construction of the canal, all of these factors producing ideal mosquito breeding conditions. In addition to this the presence at all times of the day and night of large forces of men made for a situation requiring very fine executive ability and a constantly increasing knowledge of mosquito conditions.

To us in California, this work is invaluable, containing as it does, all of the situations that will, or can be met here in anti-malarial work, with this difference in our favor, however, that we start out with a tremendous advantage; namely, a dry season lasting over a period of six months.

Fascinating chapters in the book are those describing the study of the flight of the swarms of mosquitoes from their favorite breeding grounds to some favorite human feeding ground, and the influence of air currents on these flights. The chapters on the methods of eradication of breeding places are literally invaluable to the field sanitarian who shall have to properly gauge their relative value and the proper application of the exact measure necessary to employ; when to fill, when to drain, when to employ oil or larvicide; in the matter of drainage alone there are detail questions of enormous economic value; for instance, there are favorite anopheles breeding places that have been permanently eliminated by tile drains where open drainage by trenches would have been an economic waste; pitfalls there are all along the line for an inexperienced worker, for a single mistake in judgment in the execution of the work will render worthless whole series of expensive drains.

The work is written in such a manner that it can be readily understood by both physicians and laymen and, here in California, it should be in the hands of almost every one in the malaria-infected sections of the State.

G. M. C.

Surgical Operations With Local Anesthesia. Second Edition. By Arthur E. Hertzler, A. M., M. D., Ph. D., F. A. C. S., Surgeon to the Halsted Hospital, Kansas; Swedish Hospital, Kansas City, Mo.; General Hospital, Kansas City, Mo. 327 pages; 173 illustrations; Cloth Bound, Price \$3.00. Surgery Publishing Company, New York, 1915.

This is a book principally for utility and it has derived a great deal from other authors, but has given credit. It is replete with illustrations giving in detail the exact technic for many operations both major and minor—some of them the general operator will never use. There are 173 illustrations, all of more or less value; those particularly to be commended represent the injection of the

Gasserian ganglion and the branches of the trifacial nerve; nerve-blocking operations on the jaw and those on the thorax.

While it is questionable whether all these operations may be employed with advantage they certainly suggest a much wider application of the method of operating under local anesthesia.

That there is a larger field for this work than is ordinarily understood is pretty well conceded by those well versed in surgery.

The book is to be heartily recommended to those who need it. S. T. P.

The Medical Clinics of Chicago. Volume 1, Number IV (January 1916). Octavo of 200 pages, Philadelphia and London: W. B. Saunders, 1915. Price per year—Paper, \$8.00; Cloth, \$12.00.

Contents.

Clinic of Dr. Frederick Tice—Epidemic Cerebrospinal Meningitis. Case of Bilateral Tuberculosis Associated with Pick's Cirrhosis. Acute Endocarditis with a Complicating Meningitis.

Clinic of Dr. Walter W. Hamburger—Primary Carcinoma of the Liver.

Contribution of Dr. George H. Weaver—The Schick Reaction.

Clinic of Dr. Charles Louis Mix—Upper Lobe Pneumonia. Symptoms due to Adhesions Following an Old Appendicitis.

Clinic of Dr. Ralph C. Hamill—Tic Douloureux; Injection of the Gasserian Ganglion; Technic of Operation. A Condition Resembling Landry's Paralysis in a Syphilitic.

Clinic of Dr. Charles Spencer Williamson—Three Cases of Malaria. Hemorrhagic Pleurisy. Trichinosis.

Clinic of Dr. Robert B. Preble—Pleurisy with Effusion Producing Great Cardiac Displacement. Unilateral Edema with Pleural and Abdominal Effusion Due to Papillomatous Ovarian Cyst.

Clinic of Dr. Maurice L. Goodkind—A Fulminating Cerebrospinal Meningitis Due to the Pneumococcus. Aplastic Pernicious Anemia. Primary Adenosarcoma of the Mediastinum. (Inoperable.)

Clinic of Dr. Isaac A. Abt—Infantile La Grippe.

The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume V, Number II (April 1916). Octavo of 176 pages, 32 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Published Bimonthly. Price per year—Paper, \$8.00; Cloth, \$12.00.

The Practice of Obstetrics. By Edward Bradford Cragin, A. B., A. M., (Hon.), M. D., F. A. C. S. Professor of Obstetrics and Gynecology College of Physicians and Surgeons, Columbia University, New York. Assisted by George H. Ryder, A. B., M. D., Instructor in Gynecology, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 499 engravings and 13 plates.

The author states in the preface that "the work, in the methods advocated, is based upon the statistical results of the Sloane Hospital and upon the experience gained by the author in the hospital and private practice. Another object of the work has been to present American statistics in Obstetrics."

The author has had such a wonderful opportunity in having this most splendidly equipped hospital and its large clinical material at his disposal and under his direct supervision that he is admirably fitted for writing this book. It is clear, concise, logical and thorough. Throughout the entire book one feels the distinct personal touch of the author, and this increases immensely the interest and pleasure in reading this work. The illustrations and plates are well executed and very instructive.

The divisions of the subject matter are logical and are arranged so that the student goes progressively from the fundamental and normal through all the various abnormal conditions of pregnancy, labor and the puerperium.

The chapter on the Puerperium and its management is especially good and gives in detail many things which are omitted from the majority of textbooks on Obstetrics. The information in regard to artificial feeding of newborn infants is explicit and goes far in making easy what is often a knotty problem for the general practitioner and the medical student.

Part 5, which has to do with Obstetric Surgery, is clear and well written. The author gives general rules for obstetrical operations and his results certainly justify his treatment in these cases. He is conservative throughout; especially so in regard to the major operative procedures.

Although the bibliography is limited and the historical side has not been deeply gone into, this book can be most highly recommended to students and practitioners of Obstetrics. It will most certainly become one of the most popular books on the subject. H. A. S.

Studien über Darmträgheit (Stuhlverstopfung) ihre Folgen und ihre Behandlung. By Franz Xav. Mayr. Berlin: S. Karger, 1912.

In opening this book on constipation we were delighted to find a man who knows a good deal about the normal mechanism of the tract whose abnormalities he proposed to describe and repair.

The first chapter on the physiology of the intestinal movements is a very good résumé of the literature. Nowhere have we seen it so clearly stated that the bowel is something like a railroad with a block system. Food goes forward when the region next below empties and progress is stayed if there is inflammation or other cause for increased irritability in a lower segment. This is true not only for the intestine, but similar laws govern the emptying of the stomach. The presence of food in the duodenum or the distension of this region in any way will delay the progress of material through the pylorus.

After such a promising beginning it was disappointing to find the author lapsing into a fault common to many European writers and that is: the elaboration of beautiful classifications in which many of the headings are inserted to satisfy vague etiological theories and not because they happen to fit into the clinical picture or because they are supported by any experimental evidence.

Another fault which must be mentioned is common to many writers on constipation and auto-intoxication. The author is so interested in the colon that it has become for him the essential organ of the body and the sources of all ills with the exception, possibly, of the infectious diseases. We were surprised to learn that enteroptosis is caused by constipation; appendicitis is due to it; as are angina pectoris, duodenal ulcer, menstrual disorders, gout, etc. In fact, as he says on page 174, there is not an organ in the body that is not seriously influenced by constipation. He believes that ordinarily there is a marked fermentation of the stagnating intestinal contents and that this results in auto-intoxication, colitis and other bodily calamities. Although such cases do occur, it does not seem to us that they are as important nor as commonly met with as Mayr would lead us to believe. In most constipated people who are not taking purgatives daily the feces show no signs of fermentation and it does not seem possible that the body could absorb back anything from such dry, hard lumps.

The specialist must remember not only that the organs he treats can influence all others in the body, but that all others can likewise alter conditions in his chosen field. He should note that there are others who are just as eager to ascribe

all human ills to eyestrain, veagotonia, syphilis, ovarian disease, disturbances of internal secretion, etc. Such enthusiasts undoubtedly do good by rousing the profession to the importance of these factors in certain cases; but we cannot help distrusting them as teachers and practitioners of medicine.

In spite of the drawbacks, Dr. Mayr's wide knowledge of the literature has enabled him to write a book which is more worthy of study than are some others better known to the American profession.

W. C. A.

Principles and Practice of Physical Diagnosis. By John C. DaCosta, Jr., M. D., Assistant Professor of Medicine, Jefferson Medical College, Philadelphia. Third Edition, thoroughly revised. Octavo of 589 pages with 243 original illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$3.50 net.

This, the third edition of the work, has been revised, new material has been added and some parts have been deleted to keep the size of the book down. As usual with such books, most of the space is taken up with a discussion of diseases of the lungs and heart. Considerable attention has been paid to modern methods in studying the heart, particularly to the electrocardiograph. The X-ray side of diagnosis seems a little weak but diagnosis is now so large a subject that in order to keep the book within the bounds of 600 pages, much must be left out. The author has wisely refrained from entering the field of laboratory diagnosis and has devoted his attention almost entirely to "physical diagnosis" and its mechanical aids.

Dr. DaCosta pays a great deal of attention to the pathology of the conditions studied and introduces many illustrations showing the diseased organs obtained at autopsy.

The book should be particularly useful to medical students for whom it was apparently primarily written.

W. C. A.

Theory and Practice of Bloodletting. By Heinrich Stern, M. D., LL. D. New York: Rebman Company, 1915.

A book devoted to a review of the history of blood letting, its present status in medicine and proposing an enlarged utility for this practice.

It gives in detail the methods of phlebotomy, leeching and venepuncture, advocating the author's method of doing the latter.

It goes into the theories of the effect of blood-letting and advocates its use as a more general remedial measure. It discusses its application in pulmonary diseases, plethora, heart lesions, uremia, eclampsia, chlorosis, migraine and several other conditions. It places therapeutic bleeding in a better light.

S. T. P.

Cancer of the Stomach. A Clinical Study of 921 Operatively and Pathologically Demonstrated Cases. By Frank Smithies, M. D., Gastroenterologist to Augustana Hospital, Chicago. With a Chapter on the Surgical Treatment of Gastric Cancer, by Albert J. Ochsner, M. D., Professor of Clinical Surgery in the University of Illinois. Octavo of 522 pages with 106 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$5.50 net; Half Morocco, \$7.00 net.

This monograph of 500 pages is a presentation of the observations of its author. The 921 cases observed include those seen by Smithies at the University Hospital, Ann Harbor, Mayo Clinic and at the Augustana Hospital in Chicago.

In considering the etiology of cancer, it is shown that cancer is on the increase relatively and absolutely. There is an interesting discussion of the relation of gastric cancer to race, occupation, age, sex and social status. Especial attention is paid to the relation of gastric ulcer to cancer.

The chapter on morbid anatomy is splendidly illustrated by photographs of gross specimens and by many excellent micro-photographs. These are taken largely from the works of Wilson and MacCarty.

The symptomatology of gastric cancer is grouped under six symptom-complex heads:

1. Gastric cancer in individuals who came to laparotomy for clinically benign gastric ulcer, and in whom cancer was diagnosed microscopically.

2. Gastric cancer clinically developing in patients with years of antecedent dyspepsia of the "peptic ulcer type," in whom malignancy subsequently appeared.

3. Gastric cancer in individuals who prior to the onset of a malignant disease had enjoyed perfect gastric health.

4. Gastric cancer in individuals in whom malignancy followed periods of gastric disturbance of no clinical type.

5. Gastric cancer in individuals who presented few clinical evidences of a malignant process primary in the stomach wall.

6. Gastric cancer secondary to an extragastric malignant process.

The details of studying the gastro intestinal function have been given at some length. This includes the study of gastric contents, motility, feces, etc.

The chapter on roentgenology is abundantly illustrated.

"Differential diagnosis" is a very good summary of the book. The author takes cognizance of all the aids to diagnosis. He warns against laying too much stress on any one point. He says "There is too much unnecessary and usually valueless quibbling over finer points of differential diagnosis in abdominal disease. This is often to the patient's detriment. While learned, pseudo-scientific investigations are being carried on, or while certain medical attendants are awaiting the appearance of their pet differential points, not infrequently the subject of the research passes on beyond any form of aid. Rash surgery is to be condemned, but a sharp scalpel is often a more differential diagnostician than is the keenest mind, medically."

Two types of treatment are considered. The surgical treatment is very clearly presented by Ochsner. The operations are easily grasped on account of the well chosen drawings which illustrate the various procedures.

The indications for the different operations are given. Also the preparation of the patient and the after care.

The non-surgical treatment includes prophylaxis, care of mouth and bowels as well as the care of the local condition. Vaccine treatment, sero-therapy and chemotherapy are briefly mentioned.

The book is well written. It represents the results of a wide experience. It is well worth the careful attention of any physician, surgeon or student.

J. P. P.

Principles and Practice of Obstetrics. By Joseph B. De Lee, A. M., M. D., Professor of Obstetrics at the Northwestern University Medical School. Second edition, thoroughly revised. Large octavo of 1087 pages, with 938 illustrations, 175 of them in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$8.00 net; Half Morocco, \$9.50 net.

This compend of obstetrics is profusely illustrated and systematically arranged to meet the needs of the busy general practitioner. The volume is attractive for undergraduates, but is too extensive for them to read thoroughly in the crowded curriculum of the modern medical school. The short bibliography at the end of each chapter will prove of some aid to men who desire to study more in detail general obstetric problems, and will direct them to the more complete references contained in the German texts.

A. B. S.

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder. By Paul M. Pilcher, M. D., Consulting Surgeon to the Eastern Long Island Hospital. Second Edition Thoroughly Revised and Enlarged. Octavo of 504 pages, with 299 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$6.00 net; Half Morocco, \$7.50.

The second edition of this book follows the general arrangement of the original. The development of new urological methods in the last four years has necessitated an entire new section devoted to pyelography and re-writing of the chapter on diseases of the prostate and tests of renal function with many revisions throughout the remainder of the book. The contents are divided into seven parts:

1. The technic of cystoscopy.
2. The diseased bladder.
3. Diseases of the prostate.
4. Diseases of the ureter.
5. The functional activity of the kidneys.
6. Diseases of the kidney.
7. Therapeutic uses of the cystoscope.

The subject of cystoscopic technic is thoroughly treated in four sections: "The Cystoscope," a brief description of the various types of instruments with practical points in the care of them; "The Cystoscopic Examination," a practical outline of the preparation of the patient and of the technic of sterilization of instruments and of conduction of examination; "Pyelography," a concise exposition of the history, technic, value and accidents, with a few charts from the work of Dr. Braasch, and "the technic of ureter catheterism," for direct, indirect and open types of instruments.

Practical cystoscopy in its relation to diseases of the prostate, we believe, is all too briefly covered in Part III. The cystoscopic pictures which are given for the various forms of hypertrophy are vague and incomplete and two conditions, important from the standpoint of cystoscopic differentiation; namely, contracture of the vesical neck and the bladder, and of spinal disease, have no cystoscopic description. The description of renal function is rather barren in practical points. No mention is made of methods for the correction of errors due to unilateral inhibition of function following ureteral catheterization or to leakage about ureteral catheters. No detailed description of the various types of ureteral catheters, as those of Blasucci, Garceau, Albarran, etc., and their relative value and indications of use is given. The methods of deductive diagnosis followed in dealing with diseases of the kidney are both valuable and practical. The above criticisms are of very minor details. As a whole, the book is an excellent exposition of practical cystoscopy and may be read with profit by the specialist and the general practitioner.

F. H.

The New Public Health. By Hibbert Winslow Hill. New York: The Macmillan Company, 1916.

This is a valuable little book, not because it presents new facts regarding public health, but because it states the present day views in a somewhat radical manner that causes the medical man, graduated ten or fifteen years ago, to think and compare them with the old teachings which credit the cause of infectious disease to "fomites," "bad smells," "damp cellars," "leaky plumbing," "dust," "foul air," etc., the time when everything physically and sensorially objectionable was lumped together as a cause of disease. A typical example of "intensive direct contagion," as the author puts it, was when tuberculosis was considered non-infectious and hereditary; bubonic plague was banished from Cairo, Egypt, simply by improving the ventilation of the city, while the main issue of today in the control of public health is recognized as the

carrier of disease who was unknown or unrecognized under the old teaching and whose control forms the difficult problem of the sanitarium.

In this little book the author presents his argument in a forceful and interesting manner, which must commend itself to every practitioner of medicine.

W. C. H.

The Medical Clinics of Chicago. Volume I, Number V (March 1916). Octavo of 220 pages, 67 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Published Bimonthly. Price per year: Paper, \$8.00; Cloth, \$12.00.

Contents.

Clinic of Dr. James T. Case—Lantern Slide Clinic at St. Luke's Hospital, Roentgenologic Aspects of Intestinal Stasis.

Clinic of Dr. Chas. S. Williamson—Bronchiectasis with Secondary Cardiac Decompensation. Acromegaly of Long Standing Without Subjective Symptoms. An Acute Generalized Tubercular Adenitis (Bovine Type) Simulating the Abdominal Type of Hodgkin's Disease. Recovery Gangrene of the Lung. Drainage and Recovery. Carcinoma of the Stomach Simulating Pernicious Anemia.

Clinic of Dr. Robert B. Preble—Acute Nephritis Following Acute Tonsillitis. Anasarca and Uremic Convulsions, with Rapid Recovery. Cellulitis of the Chest Producing Profound Sepsis and Delirium.

Clinic of Dr. Ralph C. Hamill—Hysteria in a Strong Man. Traumatism of the Cauda Equina. Tumor of the Spinal Cord.

Clinic of Dr. Frederick Tice—Typhoid Fever Resembling Pneumonia. Banti's Disease. Autopsy Findings in the Case of Meningitis and Chronic Endocarditis, with Acute Exacerbation.

Clinic of Dr. Isaac M. Abt—Congenital Syphilis.

Clinic of Dr. Chas. L. Mix—Case of Mitral Insufficiency and Stenosis, with Embolus to the Brain. Primary Sarcoma of the Fibula with Metastases in Brain and Cervical Glands. A Case of Lung Abscess.

Nervous Children, Prevention and Management.

Beverly R. Tucker, M. D. Richard Badger, Boston, 1916. Price \$1.25.

This little book is not a text book for the student or specialist in the field of neurology and psychopathology, nor does it claim to be such. However, it is well worth reading by all who are interested in children, normal or abnormal. The subject matter is so clearly and entertainingly presented as to make the book of real value to parents, teachers and all professional workers among children. The chapters on heredity and environment, eugenics and social hygiene, and on puberty and adolescence are especially commendable for their sane broadness. One is pleased to note the emphasis placed upon the effects of the very early mental and physical environmental influences and the relation of training in good mental habits to the prevention of future nervous disorders in those predisposed to them; for this aspect of prophylactic mental hygiene is so often neglected and the responsibility is shunted to "heredity" instead of any effort being made to arrive at an accurate diagnosis. The importance of proper institutional training and of ungraded classes in the public schools for peculiar children whose parents are not equipped to fairly deal with them is pointed out, perhaps too briefly. In the section devoted to infantile paralysis one could wish for more detailed information, especially as to the importance and the means of preventing deformities, concerning which there is so much ignorance on the part of both the laity and the general medical man. This book is worth while if for no other reason than that it will help parents and teachers to understand nervous children better and so more intelligently sympathize with their difficulties.

H. W.

MRS. REINHARDT.

The Board of Trustees of Mills College (of Oakland, California) announces the election of Aurelia Henry Reinhardt, of the University of California, to the presidency of the College.

Mrs. Reinhardt is well known throughout California as a University Extension lecturer on English literature, and also, for three terms, as State chairman of literature of the California Federation of Women's Clubs. She is a life member of the Association of Collegiate Alumnae, a member of the Town and Gown Club of Berkeley, of the Prytanean and English Club of the University of California.

Mrs. Reinhardt has a national reputation also, as a scholar of distinction. After graduating from the University of California in 1898, she taught in the English department of the University of Idaho. In 1901-3 she was a scholar and fellow in English in the Graduate School of Yale University. While at Yale she edited and translated *The De Monarchia* of Dante Alighieri, and this publication is now a college text-book. Later she held a European fellowship. While in residence at Oxford University in England she edited and published *Epicene*, or *The Silent Woman*, by Ben Jonson, for which she received the degree of Doctor of Philosophy from Yale University in 1905.

The new president of Mills College is a member of Phi Beta Kappa, of the Dante Society of America and of the Concordance Society of America.

A Californian by birth, but of New England ancestry, she is interested in the Daughters of the American Revolution, of which she is a chapter regent.

Her marriage to Dr. George F. Reinhardt, Professor of Hygiene of the University of California, took place in 1909. Dr. Reinhardt rendered eminent service not only to the cause of public health in California, but also, in organizing the Student Infirmary at Berkeley, he inaugurated the most successful attempt ever made in the United States to establish co-operative medicine. Thus this young Californian will always be known as a pioneer in the movement to secure "better doctoring for less money," the slogan of that distinguished physician of Boston, Richard C. Cabot. The exceptionally useful career of Dr. Reinhardt came to an untimely end with his death in 1914.

Mills College, for more than a generation known as Mills Seminary, used to be hidden away in the foothills on the eastern shore of San Francisco Bay. Several years ago the Seminary was discontinued, and to-day the College on the same site, with its 135 acres of picturesquely wooded campus, is included in the boundaries of the growing city of Oakland.

That a woman of the forceful personality and of the pre-eminent intellectual attainments of Aurelia Henry Reinhardt, accepts the presidency of Mills College is significant of the position that the only college for women on the Pacific Coast has a right to assume.

The members of the present Board of Trustees of Mills College are David P. Barrows, University of California, president; George C. Edwards, Warren Olney, George W. Scott, Mrs. Frank M. Smith, Mrs. E. C. Wright, Mrs. Alexander F. Morrison, Miss Janet C. Haight, Mrs. Sophie Fiske Peart, Miss Ethel Moore, Mr. Frank M. Smith, Rev. George Eldredge, John M. Chase, Rev. Frank Goodspeed, Guy C. Earl.

MEDICAL MEN OPEN HEALTH INSURANCE CAMPAIGN.

New York City.—The Social Insurance Committee of the American Medical Association has opened permanent headquarters at 131 East 23rd street, with Dr. Alexander Lambert as chairman, and Dr. I. M. Rubinow as secretary. The committee was recently appointed by the Council on Public Health and the Board of Trustees of the Association to make a study of health insurance from the medical

point of view and to co-operate in making provisions for the best form of medical service under such a system of insurance.

Dr. I. M. Rubinow, author of "Social Insurance" and a leading actuary, who is also a qualified physician, has resigned his work as chief statistician of the Ocean Accident and Guarantee Corporation in order to take up this work for the American Medical Association. "In the first place we have to bring the immense possibilities of health insurance before the rank and file of the medical profession and the public," he said. "Such insurance is, I believe, the greatest single constructive proposal of modern times. We want to secure the active co-operation of the eighty thousand members of the Medical Association to get the best possible system for this country coupled with an efficient medical service. To this end the medical problem has to be studied thoroughly."

When asked what terms for medical service laid down in legislative proposals the American Medical Association might accept, Dr. Rubinow said: "All detailed provisions relating to medical service were left open in the bills introduced this year by the American Association for Labor Legislation, for it was thought that the best course was to secure initiative on these lines from the great body of medical men themselves. So that we do not organize while in the dark about essential facts we are planning to make an extensive inquiry into the economic position of the medical profession—a subject about which many conflicting statements are made. Our aim is to bring the best results of medical research and practice to the care of the workers' health while guarding the legitimate interests of the medical profession."

Dr. Rubinow, who has been studying health insurance and advocating it for the past fifteen years, then referred to the conflict which arose between the British Government and the Medical Association at the time of the introduction of the British Health Insurance Act. "Such a conflict is unnecessary," he said, "and it is injurious to the public and to the doctors alike. Mutual confidence between the public and the medical profession is necessary to obtain good results and such conflicts are particularly harmful to the status of the medical profession. No cut and dried plan is being thrust upon the physicians of this country and it is up to us to improve upon Great Britain's experience."

OUTLINE OF POSSIBLE METHODS FOR THE ORGANIZATION OF MEDICAL SERVICE UNDER HEALTH INSURANCE.

(Tentative Draft Submitted for Criticism and Discussion.)

Arrangements for Medical Service.

- A. Conditions of service established
 1. By law
 2. By regulation of
 - a. State commission
 - b. State commission after consultation with representatives of physicians working in the insurance.
 - c. State commission with details left to d. and e. especially as to
 - (1) Method of payment.
 - (2) Limitation in number of insured patients.
 - (3) Supervision of physicians.
 - d. Carriers (association, societies, health insurance unions).
 - e. Body composed in part of representatives of carriers in each district and representatives of physicians elected by doctors working for the insurance in each district under the chairmanship of a member of the state controlling body or a judge.
 3. By law as to general principles with details left for regulation by one of the bodies under 2.

- B. Contracts for medical service to be made with
1. State commission
 2. Carrier.

Free Choice.

- A. Of Doctor by Patient.
- I. Unlimited Free Choice.
 1. Among all practicing physicians.
 2. Among all legally qualified physicians.
 - II. Organized Free Choice.
 1. From among the physicians on a "Panel";
 - a. To which any duly qualified physician may belong;
 - b. Which has been selected by the association (health insurance union) from among physicians
 - (1) Legally qualified to practice
 - (2) Physicians who have met a special test;
 - c. Which is composed of the members of a local association of physicians.
 - (1) Subject to the rights of individual physicians to refuse insurance work.
 - (2) Subject to the understanding that all members will undertake insurance work.
 2. Subject to limitations placed on number of insured patients a doctor may care for
 - a. By law
 - b. By regulations
 - c. By associations.
 - III. Limited Free Choice among salaried physicians in the employ of the associations.
 - IV. No choice; district medical officer of the society the only recognized physician.
 - V. Special arrangements for patients desiring
 1. Unqualified physician (i. e. osteopath).
 2. Qualified physician not on panel.
- B. Refusal of patients by doctor.
- I. Refusal permitted on the grounds of
 1. Distance of patient from doctor's office.
 2. Already large list of patients.
 3. Liability of patient to become ill.
 - II. Right of refusal to be
 1. Specified in the (law), (medical benefit regulations), (rules of the association).
 2. Left to the discretion of doctor.

Representation of Doctors.

- A. Possible methods of representation.
- I. Central bodies.
 1. Membership on state social insurance commission.
 2. Medical advisory board to social insurance commission.
 3. State medical society acting in an advisory capacity.
 - II. Local bodies.
 1. Committee representing all doctors in the district.
 2. Committee representing all insurance doctors in (district) (of each association), (of each health insurance union).
 3. Membership on (board of directors of association), (committee of association).
 4. Medical advisory committee to association.
 5. Special committee for disputes.
- B. Matters on which the medical profession may desire representation.
- I. Formulation of medical benefit regulations, with provision for
 1. In normal times
 - a. Terms of service.
 - b. Rates of payment.
 - c. Methods of payment.
 - d. Size of panels.
 - e. Maintenance of high standards of practice.
 2. In abnormal times
 - a. Agreements between medical profession and the Commission when asso-

ciations fail to provide adequate medical care.

- b. Each equivalent of medical care.
- c. Authorization of other arrangements by associations.

- II. Settlement of disputes between
 1. Insured persons and doctors.
 2. Associations and doctors.

Supervision of Doctors.

- A. Bodies through which supervision is possible
- I. Social Insurance Commission.
 - II. Central body representative of physicians
 1. Medical advisory board acting in an advisory capacity to the Commission.
 2. Inquiry committee for the special consideration of disputes.
 - III. Local bodies representative of physicians of the district.
 1. Local medical committee representative of all the physicians.
 2. Local panel committee representing all the insurance doctors of the (association), (health insurance union), (the district).
 - IV. The health and trade health associations through
 1. Confidential medical advisors appointed by
 - a. Association.
 - b. Physicians.
 - c. By two parties.
 2. Special committee such as
 - a. Conciliation committee composed of doctors and representatives of the association to deal with disputes between the doctors and the association.
 - b. Arbitration committee, representing the doctors, the associations, and the public, to act as a court of appeal in disputes.
 - V. Board of Health.
 1. Local.
 2. State.
- B. Points upon which supervision may prove necessary according to European experience, and which therefore should be distributed among the possible supervisory bodies.
- I. Character of medical care provided.
 - II. Professional practices.
 1. Inquiry into the extent to which doctors give certificates.
 2. Examination of patients suspected of malingering.
 3. Examination of doctors' accounts to see that charges are correct.
 4. Inquiry into the extent to which doctors give prescriptions, as well as into the character of prescriptions.
 - III. Dismissal of doctor from insurance practice.

HAY-FEVER WEEDS AND HOW THEY MAY BE RECOGNIZED.

With the approach of early summer, the hay-fever sufferer looks forward with dismay to the beginning of his trials. The efforts which have been inaugurated in many of the States to eradicate or control the hay-fever weeds give promise of the eventual eradication of hay-fever, but these measures should be commenced at once in order to be effective.

Fortunately the weeds that are the most noxious to the hay-fever sufferer are already on the black list of the farmer, and have no redeeming features in color, scent or utility. Their chief characteristics are as follows:

1. They are wind-pollinated.
2. Very numerous.
3. The flowers are inconspicuous, without bright color or pleasant scent.
4. The pollen is found in great quantities.

All hay-fever weeds are wind-pollinated, otherwise their pollen would not be in the air to irritate the nostrils of susceptible persons. Bright colors and sweet scent are intended to attract insects for fertilization, and are therefore absent in hay-fever weeds which are wind-pollinated.

Among the hay-fever weeds which will soon be in flower and distribute their noxious pollen are the yellow dock (*Rumex crispus*), careless weed (*Amaranthus spinosus*), cockle bur (*Xanthium strumarium*), etc. The grasses also are noxious to a certain class of hay-fever sufferers and should not be allowed to bloom unless intended for seed.

Dr. Scheppegegrell, president of the American Hay-Fever Prevention Association, calls attention to the daisy fleabane (*Erigeron*) which is beginning to bloom and whose toxicity has recently been established by this association. Children collect these flowers and in one whiff will inhale sufficient pollen to cause a paroxysm of hay-fever lasting three to five days. Such attacks are almost invariably attributed to "colds," the real cause not being suspected. It may, in addition, cause a "sensitization," which will make the child susceptible to hay fever in later years.

From an agricultural standpoint, weeds already cost the farmer millions of dollars annually. When we add to this the economic loss due to hay-fever caused by these weeds, several millions may easily be added. The representatives of our agricultural and legislative interests should therefore unite with the health authorities to eradicate the hay-fever weeds, which are alike a nuisance to agriculture and a reproach to preventive medicine.

BIRTH REGISTRATION IN SAN FRANCISCO.

At the Civic Auditorium during Baby Week, March 9-16, 1916, an opportunity was given parents and friends to register every baby under a year of age.

These cards were filled out and sent to the Department of Vital Statistics at the State Board of Health:

BIRTH REGISTRATION

The Baby's Right as a Citizen.

Fill out this card and we can tell whether your baby is recorded by the State of California.

Baby's Name.....
Address (at time of birth).....
Date of Birth.....
Parents' Names.....
Address (now).....
Doctor's or Midwife's Name.....

The results are as follows:

		On File
From San Francisco county....	143	110
From other counties.....	13	8
	155	118

Thus 76.1% were recorded and 23.9% were not recorded.

At a similar examination made last year in Los Angeles 60% of births were found to be recorded.

The matter of birth registration is one of serious import to the child, both for a working certificate if he has to leave school for that purpose, and for establishment of citizenship in the United States. To be within the registration district of the United States a state must register at least 90% of all births. This failure to comply with the State Law is due to lack of appreciation of the value of the registration on the part of the physician in charge and it is hoped that this small investigation will bear fruit in better birth registration.

The State Board of Health's department of vital statistics will look over any group of cards similar to these provided they are collected for babies under one year.

ADELAIDE BROWN,

Member State Board of Health.
Chairman Public Health Committee, San Francisco Civic Centre.

NEW MEMBERS.

Dotson, Eli E., Escondido.
Scott, Gavin S., Ramona.
Pickard, Rawson Jos., San Diego.
McGinnis, George Henry, San Diego, Cal.
Riewel, Henry V., Oceanside, Cal.
Wessels, Andrew Benj., San Diego, Cal.
Myers, Alfred Edward, San Francisco.
Freyermuth, O. G., San Francisco.
Thomas, Robt. W., San Diego.
Thayer, Lyman Elanson, Los Angeles.
Brown, Joseph Richard, San Francisco.
Helms, George L., Hilts, Cal.
Hatteroth, W. H., San Francisco.
Dannenbaum, S. R., San Francisco.
Franklin, Blake, Sacramento.
Downing, W. E., Rio Vista.
Stevenson, Geo. L., Sacramento.
Bramhall, R. N., Fair Oaks.
Young, Philip G., Sacramento.
Jablons, Benjamin, San Francisco.
Felch, M. F., San Francisco.
Neel, Jos. Craig, San Francisco.
Spalding, Robt. B., San Francisco.
Cohn, Herbert J., San Francisco.
Barnett, George DeForest, San Francisco.
Kimberlin, Lester O., San Francisco.
Mehrtens, Henry George, San Francisco.
Crow, Lloyd Benj., San Francisco.
Catton, J. H., San Francisco.
Reed, A. C., San Francisco.
Langnecker, Harry L., San Francisco.
Hogan, J. J., Vallejo.
Falconer, E. H., San Francisco.
Means, Sam'l W., San Francisco.
Mardis, B. A., San Francisco.
Laughlin, C. B., San Francisco.
Evans, Newton Gurdon, Loma Linda, Cal.
Hoare, Harry J., Loma Linda, Cal.
Hill, H. G., Redlands.
Power, W. B., Redlands.
Trott, Leslie De Nyse, Loma Linda.
Baylis, J. N., San Bernardino.
Ruble, W. A., Loma Linda.
Herzer, Fred E., Loma Linda.
Kroll, Fred W., San Francisco.
Nottage, H. P., Oakland.
Cunningham, Ruby L., Berkeley.
Risdon, Ruth C., Berkeley.
Tralle, Geo. M., Santa Ana.
Lavery, Wm. A., Sierra City.
Burkard, Adrian F., Santa Barbara.
Brown, Fred A., Lompoc.
Pierce, Horace Fred'k, Santa Barbara.
Barbour, L. P., Rialto, Cal.
Wickett, Wm. H., Los Angeles.
Crawford, Jas. P., San Quentin.
Sullivan, Walter H., Sausalito.
Sweet, Carrol Lincoln, Elk.
Fisher, D., Merced.
Abrons, Harry, Napa.
Ogden, G. W., Napa.
McAuley, John, Santa Ana.
Robertson, H. M., Santa Ana.
Shook, Francis Marion, Oakland.

RESIGNED.

Yost, John Dixon, San Francisco.
McDonnold, P. E., Los Angeles.
Sawyer, H. C., San Francisco.

DEATHS.

Paterson, E. M., San Jose.
McDermott, W. P., San Francisco (died in Los Altos).
Kocherle, Theodore, Los Angeles.
Turnbull, Walter Lathrop (died in San Francisco).
Wilcox, N. J., Oakland, Cal.
Correction:—Dr. William Hayden Campbell is not deceased, as reported; is improving in health.
Stafford, Auren A., Alameda, Cal.
Hedgpeth, Wm. R., Paso Robles, Cal.
Wing, Elbert, Los Angeles.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Harry E. Alderson, M. D.
Wm. P. Lucas, M. D.

René Blin, M. D.
Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman
Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - - -	Butler Building,
State Journal, - - -	San Francisco.
Official Register, - - -	

Telephone Douglas 62

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV

JULY, 1916

No. 7

EDITORIAL NOTES

IMPORTANT NOTICES Read Them Carefully!

MALPRACTICE DEFENSE.

As all our members know, the State Medical Society has been defending its members in suits brought for damages for alleged malpractice, subject to certain rules and regulations, since July 1, 1909. Before referring to the recently approved extension of the work, it may be well to set forth here briefly the rules and regulations covering the operation of the present work.

1. The physician defendant must have been a member in good standing, dues fully paid, at the time of the alleged malpractice, and also at the time when the suit is filed against him.

2. Any member sued, or threatened with suit, must, within 48 hours, notify the Secretary of the State Society, forwarding any communications, summons and complaint, or correct copy thereof, with a full statement of the case.

3. If such member is also insured in an indemnity company, he must elect whether to have the company or this Society take charge of his defense; and he must be advised by the Secretary of the Society that if he does not immediately notify the insurance company, he violates his contract with the company and practically cancels his policy, in which event, if a judgment went against him, the company would not be compelled to pay it.

4. An action in the nature of a cross complaint, brought against a member who has sued a patient to collect an account due within one year from the termination of the services, will not be de-

fended by the Society, unless such member has, before suing his patient, applied to the Council of the State Society for, and received, permission to bring such suit.

5. The Society will not defend a member in an action originating in the treatment of some injury where an X-ray plate would have been of benefit and advantage in making a correct diagnosis, or in correctly treating the patient, and was not so taken, unless the member so sued can furnish the Council with a full and satisfactory explanation of why an X-ray plate was not made and kept by him.

All of these rules are comparatively simple and all of them have been approved by the House of Delegates of the State Society.

In any case where a member is being defended by an insurance company, and in which we feel that it will be desirable to have our own attorneys participate in such defense, we so participate. The Society makes sure that everything which should be done for the protection of its members, has been and is being done.

PAYING JUDGMENTS.

When the medical defense plan was adopted, the Society decided not to include the settlement of judgments which might go against members. As a result of this decision, quite a good many members, who felt that they might at some time or other have a judgment against them, have carried indemnity insurance with one or more insurance companies. Such a policy with an insurance company costs from \$15 to \$30 a year.

The House of Delegates, at the Fresno meeting, requested the Council to arrange a plan by which the members who desire to do so could contribute to a fund out of which charges of this kind against such members could be paid. This has been done, and the plan, as outlined and approved by the Council, and prepared by its attorneys, is published herewith. (See *infra*.)

SAFETY AT REASONABLE COST.

It will be seen from the plan presented under the heading "Malpractice Indemnity Fund," that any or all of our members may thoroughly protect themselves against possible judgments at a cost very much less than the amount paid to an insurance company. Even if there were a great many judgments, and even if the amount of them required a payment to the fund of \$15.00 as frequently as every other year, there would be a saving of at least 50% to each member participating in this enterprise. It is probable that if between 500 and 1000 members will take advantage of this offer, they will not have to pay an assessment more often than, at the most, once in five years, though of course this is merely surmise.

The reason why a promissory note for \$15.00, made payable one year after date, is required, is that the fund may be assured of the two successive years' contribution by every member participating, and thus avoid the difficulties and complications which would arise by a member paying one year and not the second.

ACT QUICKLY.

You will note that this indemnity fund plan requires that at least 300 members shall have contributed before the end of the year. If they have not so contributed, the money and notes will be returned to those who have, and the plan will be abandoned. Therefore, if you wish this additional protection, act quickly! Send in your remittance for \$15.00 and your note, payable one year after date, for \$15.00.

The plan is so good, so practical, and so thoroughly sound in its business features, that it would seem to be a shame not to take advantage of it. Every surgeon, and particularly men doing hospital or dispensary work, and every specialist doing such work, should immediately enroll himself as a participant in this fund.

NOT ONLY SURGEONS.

A good many men in general practice have the idea that only surgeons, or almost exclusively surgeons, are subject to suits for damages for alleged malpractice, for the reason that such suits—in their opinion—always originate out of fractures or similar injuries. This is not the case. Some of the worst suits that we have had in the past, and have now on hand to defend, have been suits brought against physician members in the ordinary course of general practice, confinement work and the like. One bitterly-fought suit had its origin in the question of correct diagnosis of tuberculosis. Another one, lasting two weeks or more in trial, originated in a confinement case. Still another had its origin in the examination of school pupils. There is no limit to the possible range of conditions or treatments out of which a suit for damages may arise.

A BUSINESS PROPOSITION.

Remember that the business side of the work of the State Society has now attained remarkable proportions; nearly all of the work passing through the office of the Society is business of a non-medical character.

The creation and carrying forward of this "Malpractice Indemnity Fund" will still further increase the business of the Society, and it must be conducted in a businesslike way. It is an absolutely practical business proposition; it can be handled, and it will be handled, in a practical business way. Any member can absolutely assure himself of complete protection (including settlements, paying judgments, etc.) at a cost which will probably range from \$3.00 to \$7.00 a year on an average, depending upon the amount of expense and the frequency with which assessments will have to be made in order to keep up the fund.

In discussing this plan with the manager of a very large insurance company, he commented upon the absolute soundness of the proposition from a business point of view, and said that if the members did not take advantage of it, "they would be fools."

THE OPPORTUNITY IS YOURS.

Here is the plan by which you may thoroughly and absolutely protect yourself. Study it carefully. Think about it seriously. In the long run you will save a considerable amount of money. If you wish to save that money, enroll your name at once and send in your remittance, and participate in the benefit of the

MALPRACTICE INDEMNITY FUND.

The House of Delegates of the Medical Society of the State of California, at its 45th annual session, Fresno, California, April 19, 1916, passed a resolution requesting the Council of the Medical Society of the State of California to take proper and appropriate action to the end that means may be provided whereby members of the Medical Society of the State of California who desire to do so may voluntarily contribute to a fund, out of which fund shall be paid the amount of judgments assessed against such contributing members in any suit or suits against such contributing members for damages for alleged malpractice, and also payment of such sums as may be necessary for the settlement of claims against such contributing members when in the judgment of competent and experienced attorneys, by and with the concurrence of the attorneys for the Medical Society of the State of California and by and with the consent and concurrence of such contributing member, it seems wise and expedient to settle such claim or claims and the necessary expenses connected therewith.

The Council, having considered this matter, and having referred the same to its attorneys who have considered, amended and revised this statement or plan of conduct of this undertaking, presents the following detailed plan for the conduct and operation of this indemnity fund:

1. Unless within six months from July 1, 1916 (on or before December 31, 1916), not less than three hundred (300) members shall have contributed in the manner provided hereafter to this fund, known as the Malpractice Indemnity Fund, the whole plan and operation of this enterprise shall cease, terminate, be abandoned and the amounts which may have been contributed during that period shall be returned to the contributors.

2. The Council will appoint three trustees of this fund who shall see that it is kept separate from all other funds of the Society and that it is safely invested and administered, which trustees shall be responsible to the Council of the Medical Society of the State of California and to the contributors to the fund.

3. Any member desiring to participate in the creation of this fund and in the benefits to be derived therefrom, subject to the terms and conditions of this plan, shall transmit to the Secretary of the Medical Society of the State of California, who in turn shall pay over the sum to the trustees of the fund herein above referred to, the sum of Fifteen (\$15.00) Dollars and a promissory note payable one year after date, without interest, to the order of the Medical Society of the State of California

in the sum of Fifteen (\$15.00) Dollars, which note shall be presented for collection on maturity and shall upon collection be credited to the account of the drawer of the note as his payment for the second year toward the creation of such Malpractice Indemnity Fund. In the event that not more than three hundred (300) members shall so contribute by paying Fifteen (\$15.00) Dollars and transmitting with such payment a promissory note as herein indicated before December 31, 1916, such sum of Fifteen (\$15.00) Dollars and such promissory note shall forthwith be returned to such contributing member.

All payments out of the Malpractice Indemnity Fund shall be made by check signed by a majority of the three trustees of the fund upon presentation to them of a bill of costs for judgment, the amount of compromise settlement or the like, which bill shall have been duly prepared by the attorneys of the Medical Society of the State of California and signed by them with the statement that it is correct as to amount and desirability.

4. Any questions which may arise in the course of the administration of this undertaking shall be settled by the Council except as hereinbefore stated, namely, the charge and administration of the fund and the payments therefrom, and further as to any use of such fund or funds other than for the purposes hereinbefore stated.

5. The Malpractice Indemnity Fund herein referred to may be divided and distributed to the living contributors thereto at any time upon the consent thereto in writing of two-thirds of the living contributors to the fund. The fund shall not be diverted from the purposes specified or disposed of in any other way except upon similar action, namely, the consent in writing of two-thirds of the living contributors.

6. Any member contributing to this fund who shall cease to be a member of the Medical Society of the State of California for any reason shall thereby lose and forfeit all of his interest whatsoever in this fund. Any interest which any contributing member possesses in this fund is inherent in himself personally and may not be transferred, assigned, or disposed of in any way save by his termination of membership in the Medical Society of the State of California as hereinbefore provided.

7. If and when the Malpractice Indemnity Fund shall by virtue of payments made therefrom be reduced to an amount considered by the Council of the Medical Society of the State of California to be an unsafe amount, the said Council may then levy upon the contributing members a further assessment of not less than Fifteen (\$15.00) Dollars a year for one or two years, as in their judgment may seem proper, which assessment shall be payable in the same manner as the original payments.

8. Any member at any time in future during the existence of the Malpractice Indemnity Fund, as herein described, may contribute to the fund as provided for herein and upon such additional terms as the Council may prescribe and thereby receive the benefits to be derived from such participation.

9. Save and except as to the distribution of the fund or its diversion to some other purpose, the Council may make any changes or alterations in these rules, or may adopt such other and different rules and regulations as it may deem proper, necessary and appropriate.

THE VALUE OF A MEDICAL LICENSE IN CALIFORNIA.

From time to time the JOURNAL will publish illustrating examples of the satisfactory way in which the present medical law and its administration are admitting to practice in this State persons with little or no qualification. We have already given one or two such instances, and here is another. Dr. "John Doe" was licensed by the present Board of Medical Examiners April 29, 1915. His previous record is as follows: He took the examination in December, 1909, and received a mark of 42.9%, in addition to which he was caught cheating. He took the examination August 23, 1909, and failed with a mark of 58.1%. Later he went to Oregon and obtained a license, and in 1913 applied for reciprocity license in this State, and was refused. In 1914, he again took the examination, and failed with a mark of 58.1%. Subsequently his papers of the examination in 1914 were reviewed, he was raised two points in one or two subjects, and then allowed 1% a year for 12 years practice, and was given a license to practice in California. The Board is to be congratulated upon its efficient protection of our citizens!

THE HARRISON NARCOTIC LAW.

In the first place, let it be said that the purpose and intent of the law are beyond all question of the greatest benefit to society, to physicians, and to persons who come to physicians as patients. There are, however, numerous things about it that are vexatious. Some of the rules made are absurd, and it would be practically impossible for any physician actively to practice his profession and not violate some of these rules and regulations. For instance, in the matter of absurdity, treasury decision 2213 learnedly lays down the rule that a physician's prescription, when made up, is a preparation and not a remedy. One is reminded of many wise questions that have been propounded; as, for instance, "Why is a red hot stove?" It is also somewhat annoying to see incompetent and unfitted persons on the payroll of the Government making silly and bothersome rules of this kind, and at the same time read from the court report in a newspaper that a man running a regular business in selling narcotics to drug fiends, when arrested, was penalized only to the extent of 30 days in the county jail. Physicians as a class are doing a great deal, by conforming willingly to the Harrison Law, toward the end of suppressing the habit-forming drug evil. However, if society wishes to rid itself of this pest, it will have to cooperate with physicians in future more than it has in the past.

HEALTH EFFICIENCY.

Elsewhere in the JOURNAL will be found a report of the physical examinations of 1495 men employed by the Weed Lumber Company. Other companies are pursuing the same policy of having all their employees given a thorough physical examination, and the result has been remarkable in many ways. In the first place, a considerable number of abnormal conditions are found and recorded which prevents the laborer at some time in the future claiming that such abnormality was due to accident. For instance, out of the 1495 men covered by this report, it is seen that 37% had hernia, and that 46% had some trouble with their eyes, twenty being blind in one eye and 77 having very poor vision in both eyes.

CORRECTION.

Through a mistake in the JOURNAL office, the proof of the advertisement of W. B. Saunders Company, appearing in the June issue of the JOURNAL, was not forwarded in time for certain corrections to be made. Graves' Gynecology was the book advertised, and the price should have been stated: cloth \$7.00 net, half morocco \$8.50 net.

HEALTH INSURANCE.

The medical aspect of health insurance will soon attain the same importance here that it has already attained in New York, where a health insurance bill was presented to the legislature of the past winter. There, the bill introduced without hope of passage the first year, did not contain detailed provisions for the administration of medical care under health insurance. In the two months following the public hearing on the bill the American Association for Labor Legislation has been giving earnest consideration to the medical aspect, and now, upon the basis of suggestions put forward by representative doctors, it has drafted provisions for the organization of medical benefit.

These sections provide in brief that the insurance carriers, subject to the approval of the state social insurance commission, may select the method of administration most suited to local conditions, through either a panel of doctors to which all legally qualified physicians may belong, and from among whom the insured patients shall have free choice of physician; or through salaried physicians, with reasonable free choice; or finally through physicians engaged for specified districts. The merits and demerits of various bases of payments are carefully considered in the explanatory material accompanying the bill, although the bill itself does not yet contain provisions to this effect. Representation of the medical point of view is gained through a physician member of the state supervisory commission, through consultation with a medical advisory board, and through local committees. To avoid a repetition of some of the unfavorable foreign experience the maximum number of insured patients whom a physician may treat is specified. This will prevent an undue concentration of the insured patients among a few physicians, and thus

will prevent the abuses which result from an impossibly large insurance practice. This step, admirable in its intentions, might appear arbitrary, if it had not been worked out with the advice and cooperation of the medical profession.

It is upon such points as these, affecting both the character of the insurance practice and the physicians themselves, that consultation between the California Social Insurance Commission and the Medical Society of the State of California will be most valuable.

"SCIENCE"—?

A gentleman named Cyrus L. Topliff, who apparently from his card is connected with the *Scientific American*, has sent in a little circular, possibly a reprint of an item from the *Scientific American*, on the subject of the cancer problem. It is rather interesting, as coming from one apparently connected with the *Scientific American*, to read the following, and in reading it, one cannot but wonder where we are going to land if such extraordinary views proceed from supposedly scientific sources.

"As the mind is the only power which can overstrain or weaken the nervous system, it is reasonable to suppose that we must first study the action of the mind over the body before we can discover the real fundamental cause of any inflammatory or malignant form of disease.

"Fear and worry are synonymous, and inseparable in a person's mind. Therefore, fear is really the fundamental cause of many diseases, and the various forms of such depend largely on what particularly harmful thoughts are combined with fear in each patient.

"If the medical profession fail to solve this difficult problem, it is possible that some 'layman,' who has given much thought and study to the subject, and experimented on scientific lines, may ultimately succeed in demonstrating the fundamental cause, and if it can be accomplished, then much of the mystery of all diseases will disappear and health and happiness will be much more general than at the present time."

SOCIAL INSURANCE.

Herewith is a brief report of a meeting of the Committee on Social Insurance of the Medical Society of the State of California, held in San Francisco May 20th. Elsewhere in the JOURNAL there will be found some additional matter relating to this most important subject and a copy of the circular of information which was sent to all county society secretaries. A great deal of interest and enthusiasm on this subject seems to have been raised and it is a most fortunate thing that such is the case. The statement of Dr. Lambert, chairman of a similar committee of the American Medical Association, to the effect that in his judgment this is the most momentous and important problem facing the medical profession of the United States, is undoubtedly true, and its truth is

evidenced by a committee of the A. M. A. with an appropriation sufficient to permit it to do whatever is needed in the way of keeping the medical profession in touch with what is going on.

EXPERTS IN OUR MALPRACTICE CASES.

Something over a year ago, a careful review was made of a number of suits brought against our members for damages for alleged malpractice, with the idea of finding out what doctors were testifying as experts for the plaintiff in these various cases. The result is very interesting. As a rule the experts who testify for the plaintiff in malpractice cases need very little consideration on our part, as either ignorance or prejudice is, in almost every instance, so palpable that it is apparent to the jury that the expert does not know what he is talking about, or else that there is personal animus against the defendant physician. This condition of things has developed quite naturally and without any extraneous influence, and is therefore the more fortunate, for the plaintiff is unable to claim inability to obtain experts to testify on his behalf. There would be great danger if the feeling should develop, or build up, that all the doctors in the State or in the Society were leagued together so firmly that no plaintiff could ever get an expert to testify for him. Out of several hundred cases that have passed through this office, we can recall only three or four in which there was any real merit in the plaintiff's claim of negligence. In nearly every suit there is no shadow of ground for the complaint of the plaintiff and therefore we have an absolutely honest defense, and there can be little danger in opening wide the field of expert testimony on behalf of the plaintiff. We have little to fear from perfectly honest experts, and very little more to fear from the ignorance of the expert ordinarily called by the plaintiff, or from one who is biased, as it is generally possible to disclose the bias, and the ignorance is self-evident.

COUNTY SOCIETY ACTIVITY.

Some of the county medical societies, especially in the southern part of the State, have been, and are, very active, and in ways that are distinctly progressive. Last month we commented on the Library Association of the San Diego County Society. San Bernardino County has had a Physicians Club for some years. In Riverside the activities of the County Society have been marked and liberal. Frequently meetings are held in nearby counties, thus securing larger audiences, bringing more men together, and increasing the friendly feeling between different county societies. In April the meeting of the Riverside County Society was held at El Centro in Imperial County, and the physicians of Imperial Valley, San Bernardino County and Riverside County were all invited to attend. An excellent program was prepared and a two-days outing was enjoyed by a large number of members.

COUNTY SOCIETY NOTICES.

June 1, 1916.

To all County Society Secretaries:

Dear Doctor:

Enclosed is some matter from the Committee on Health Insurance which is of the greatest importance to every physician. You should read it carefully and present the gist of it to your Society, and at the same time urge them to follow carefully all that is published on this subject in the STATE JOURNAL from month to month.

The State Society, at the Fresno meeting, authorized the Council to prepare a plan whereby such members as wished to might contribute to a fund for the purpose of paying judgments and the like; in other words, covering such members as fully as any insurance company could do. The full details of this plan and arrangement will appear in the July number of the JOURNAL. Please urge your members to look for this and study it carefully when it comes out.

Cordially yours,

PHILIP MILLS JONES,
Secretary.

To County Societies:

Your attention is herewith called to the following facts:

1. The last legislature authorized, and the Governor has appointed, a Commission to Investigate and Report upon Systems of Social Insurance.
2. This Commission has undertaken an intensive study of sickness insurance, this seeming more practicable for the present than the study of insurance against old age, invalidity, unemployment and death.
3. This Commission will undoubtedly make some report to the legislature in January; i. e., at a period prior to the 1917 meeting of the State Society.
4. It is doubtful whether this Commission will recommend a bill creating sickness insurance at the January meeting of the legislature. It is probable that further time for study will be required.
5. The State Medical Society has been asked by this Commission to appoint a committee to consult with it. This has been done.
6. The State Society's Committee feels that in the study of sickness insurance, it is important that the entire profession take an active part. The legislature will have met before this Committee will have been able to report to the Society at large.
7. It therefore and hereby requests the appointment of a Social Insurance Committee in every county medical society.
8. The State Committee will keep in touch with all county committees, and endeavor to place all available information at their disposal.
9. The work is important. Please appoint your

committee immediately and report at once as to its personnel to the Secretary of the State Society, in the enclosed envelope.

Yours truly,

RENÉ BINE,

Chairman Committee on Health Insurance.
Address: 350 Post Street, San Francisco.

ANOTHER SWINDLER.

A rather clever way of getting a few dollars out of the doctor came to our attention last month, and is worthy of record for reference. A workman appeared in the office of a specialist in San Francisco, with a letter purporting to come from Gordon and Gillis, General Contractors, asking the doctor to take professional care of one of their valued employees, a Mr. Leroy Williams. The patient was carefully examined and was advised that his case would require a somewhat long period of treatment. He asked about what the expense would be and was told; whereupon he stated that he would like to pay something on account, and produced what appeared to be a draft for \$85.00, asking the physician to take out \$25.00 and give him the rest. This particular doctor, being cautious, told him he would send the check to the bank and the man could come the next day and get his money. It is needless to say that the check was returned by the bank, unpaid, and that the man never showed up again.

NEW VIEWS ON TUBERCULOSIS.

Dr. Maurice Fishberg, a review of whose book on pulmonary tuberculosis will be found elsewhere in the JOURNAL, has presented in a very striking and original way a number of thoughts in regard to tuberculosis that are well worth our careful consideration. The review of his book, already referred to, is extensive, and will give any one interested an excellent idea of its range and scope.

—NOTICE—

The California State
Journal of Medicine and
the Medical Society
State of California
Telephones are now

—DOUGLAS 62—

ORIGINAL ARTICLES

SECOND THOUGHTS ABOUT SALVAR-SAN THERAPY.*

By WILLIAM E. STEVENS, M. D., San Francisco.

As the supply of salvarsan and neosalvarsan has been temporarily discontinued it seems appropriate at this time to consider some of the contraindications for their use and common errors in the technic of the various methods of administration. These preparations, of great value in the treatment of syphilis, contain large amounts of arsenic and are capable of producing some very disastrous and even fatal results when incorrectly employed. This important fact seems to have been lost sight of, for salvarsan has been carelessly, even recklessly, used by many reputable practitioners.

CHOICE OF PREPARATIONS.

Neosalvarsan should be discarded in favor of salvarsan except in those few instances where there are grounds for the belief that an idiosyncrasy exists, or when administration in the office is imperative. The superiority of the latter over the former drug is shown by Nelson and Haines of the Fort Leavenworth, Kansas, Military Prison, who report twice as many negative Wassermann reactions after four injections of salvarsan with mercurial treatment as were obtained after five injections of neosalvarsan and the same amount of mercury. E. H. Martin of Hot Springs, Ark., obtained similar results.

CONTRA-INDICATIONS.

Only positive indications should warrant the employment of this drug. The following cases reported by Brandenburg and Kannengiesser illustrate this fact. A robust man had undergone thorough anti-syphilitic treatment four years previously and although his blood was negative to repeated Wassermann tests, and his wife and children were likewise healthy, he was nevertheless given an intravenous injection of 0.5 grams of salvarsan; vomiting and diarrhea followed immediately and the patient died in convulsions four days later. Kannengiesser's patient was a robust man of 29 who developed convulsions followed by death three hours after salvarsan. No cause was found on autopsy.

Another patient suffered from an anemia for which no cause could be found. Salvarsan was given intravenously in doses of 0.1 and 0.2 grams on consecutive days. Seventy-two hours later paralysis of both arms developed. Recovery followed, but the arms were still weak six months after the treatment.

Davidson of Los Angeles reports the case of a vigorous young man suffering from secondary lues who immediately after the injection of 0.6 of neosalvarsan became cyanosed, pulseless and suffered agonizing pain in the precordium. He recovered some hours later, however, following frequent injections of adrenalin solution and saline enemas. Davidson thought the collapse probably due to the vaso dilation caused by the salvarsan superimposed

* Read before the San Francisco County Medical Society, November 30, 1915.

upon a similar action of alcohol some of which was detected in the patient's vomitus.

The eight deaths in Los Angeles following the intraspinal administration of salvarsan are still fresh in our memory.

These serious results, together with a large number of others reported in the literature, should be sufficient warning against the indiscriminate use of this powerful drug.

In the majority of cases fatalities occur after the second or subsequent doses, the usual symptoms being either those of meningeal involvement, uremia resulting from nephritis, toxemia following degenerative processes in the liver, or pulmonary embolism due to phlebitis and thrombosis at the site of the injection into the vein. This last complication is obviously more likely to result from 606 than from the less irritating 914.

Sachs, Strause and Kaliski give the following list of contraindications for the use of salvarsan: Severe renal involvement; marked cardiac disease with insufficiency of the cardiac muscles; impending coma in diabetes or nephritis; terminal conditions not likely to be benefited by salvarsan and a known intolerance to the drug. To this list may be added, severe gastro-intestinal or hepatic diseases and advanced cancer.

Likewise during pregnancy if there is any doubt as to the condition of the kidneys, functional tests should be made to decide the question. Phenol-sulphonephthalein or phloridzin as tests of excretion and blood cryoscopy or blood urea as tests of retention, are of most value.

Salvarsan should be used with great caution when there is involvement of nerve tissue, especially if severe headache exists or symptoms of upper cervical cord or medulla involvement are present. Also in cases of chronic poisoning from alcohol, nicotine, or lead, in tuberculosis or other infectious diseases, in Addison's disease, status lymphaticus and in fact whenever the vitality is lowered from any cause.

IMPROPER PREPARATION OF THE SOLUTION.

Four cases may be mentioned in which the sodium hydrate was unintentionally omitted in making up the salvarsan solution. The first occurred in my own practice, the patient being a woman 38 years old who had been infected by her husband twelve years previously. When the secondary symptoms appeared she was informed that she was suffering from Cuban itch, and no specific treatment was given. Three months before coming under my care she began to experience a slight numbness of the legs with some difficulty in walking. Examination revealed an absence of the patellar reflexes with a slight loss of tactile sensation on the outer surfaces of both legs. Her blood Wassermann was three plus positive. The spinal fluid Wassermann, globulin and cell count were negative and except for a diminished amount of hemoglobin (sixty per cent.) and a reduction in the number of red blood cells (3,900,000), she was otherwise healthy. She was given intravenously 0.4 grams of salvarsan in 100 cc. of warm sterile distilled water from which the sodium hy-

drate solution was omitted. A slight erythema developed and five minutes later upon attempting to rise from the table she lost consciousness; she recovered almost immediately, however, but was very weak for three days.

The second case occurred in the practice of a colleague. The patient was a married woman 17 years of age, in whom a diagnosis of lues had been made although no Wassermann examination had been obtained. She was given intravenously 0.6 grams of salvarsan in 200 cc. of cold non-alkaline solution. Almost immediately she became unconscious and remained so for about twelve hours. Her temperature rose to 104°, sugar appeared in the urine, also a trace of albumen; her ankles became swollen, and for several days she complained of intense pain in the head and back, but eventually recovered.

A third case, seen in consultation by a colleague, developed a profuse erythema following the injection. This cleared up, however, in about five minutes. Further history of the case was not obtained.

The only report of a similar accident that I have been able to discover in the literature is that of Eberly of Fort Wayne, Ind. His patient received 5 cc. of an unneutralized solution containing 0.6 grams of salvarsan in 10 cc. of water. Pronounced symptoms of collapse appeared almost instantly, but were relieved by frequently repeated doses of nitroglycerine. A complete suppression of urine lasted three days. A severe phlebitis began in the cephalic vein and lasted six weeks. The urine was not free from albumen nor had the patient recovered her strength until the same period of time had elapsed.

Another common error in technic is the neglect to filter the solution before use. It is easy to understand how particles of glass from the ampoule or small portions of undissolved salvarsan might be injected into the vein with the unfiltered preparation. That freshly distilled sterile water should always be used is almost needless to mention. It is now recognized that many of the unpleasant results heretofore reported following the use of this drug were due to the water in which it was dissolved.

IMPROPER METHOD OF ADMINISTRATION.

Strange as it may seem, some physicians continue to cut down upon the vein before inserting the needle. In one case recently called to my attention a young dental student received four salvarsan injections, and with them a like number of scars on his arms to carry through life as mementoes of the occasion. This is absolutely unjustifiable, for even in a small child a vein of sufficient size can be felt if not seen. When the median basilic is deeply situated or small, often the cephalic, median cephalic, radial or ulnar, veins will be found satisfactory. In infants a vein of the scalp, the external jugular or injection into the superior longitudinal sinus through the anterior fontanelle is preferable.

The precaution should be taken to make certain that the needle is in the vein during the injection of the salvarsan. If a Luer syringe barrel be at-

tached to the rubber tubing a regurgitation of blood into the barrel is evidence that the needle is in the vein and that the injection may be proceeded with. Much suffering and deformity has followed the escape of this irritating solution into the surrounding tissues. I have in mind a young girl to whom this accident occurred two years ago. An enormous scar resulted and although her Wassermann reaction is now three plus positive she could never be persuaded by the attending physician to take another injection. Intramuscular injections have been justly discarded by almost everyone.

Authorities differ widely regarding the proper dosage and the intervals at which salvarsan should be administered. Small doses at frequent intervals are not advisable, a resistance to these being acquired by the spirochetes, many of which escape destruction whereas they are overwhelmed and greater numbers destroyed by larger amounts. It should be remembered, however, that in the secondary stages of syphilis the initial dose of salvarsan should not be too large for at this time the danger of brain disturbances and Herxheimer reactions is greatest.

INTRADURAL MEDICATION.

Although much has been written and many cases reported in which patients have been subjected to intradural medication no consensus of opinion exists as to the permanent value of this method of therapy.

Many advance the argument that the blood supplies all living tissue with nourishment and any substance dissolved in it will be carried to the brain, the cord, and every other part of the body in which the blood circulates. In this connection, attention is called to the fact that in arsenical poisoning degeneration of the anterior horn cells of the cord occurs.

Nonne was unable to observe any difference in the course of cases treated with salvarsanized serum from that of others treated with the older methods. Personally I have not seen any brilliant results, although it cannot be denied that many cases have shown temporary improvement at least. In the Swift-Ellis method this is without doubt achieved in many instances with the help of the intravenous injection which precedes the intraspinal administration of the salvarsanized serum. In many cases the rest and attention which of necessity accompany the treatment are partly responsible for the improvement noted, and finally it must be remembered that remissions are characteristic of syphilis of the central nervous system. It seems reasonable to believe, however, that the arsenic and the antibodies introduced into the spinal canal, as well as the removal of a quantity of abnormal spinal fluid, would prove of benefit. In fact, the withdrawal of the same amount of spinal fluid alone will produce favorable alteration in the serobiologic findings. It should be borne in mind that Wechselmanns, Sicard and Block, Zoloziechi, Kapland and others detected arsenic in the spinal fluid after the third or fourth injections of salvarsan or neosalvarsan given by the intensive method. Professor Benedict of Cornell found more arsenic in the spinal fluid twenty-four hours after the intrave-

nous administration of salvarsan than was present in a like amount of salvarsanized serum.

In this connection the suggestion of decreasing the pressure of the spinal fluid after the intravenous injection of salvarsan made by George Hall and carried out by J. H. Barbat in a case reported recently is of interest. In Barbat's case 43 cc. of cerebrospinal fluid were withdrawn immediately after the intravenous injection of 0.9 of neosalvarsan. This was done with the idea that the lost spinal fluid would be replaced at a time when the blood contained the maximum amount of the drug. A specimen of spinal fluid removed four days later showed 1 to 100,000 metallic arsenic. It is impossible to obtain a larger amount after the introduction of salvarsanized serum according to the Swift-Ellis technic. Neosalvarsan was used because of the fact that this preparation is thought to remain in the blood serum rather than enter and remain in the red cells as does the older drug.

It might be added, however, that in the majority of cases reported in the literature in which arsenic was found in the spinal fluid intravenous injections of salvarsan had preceded the examination. None was found when neosalvarsan had been used.

I have recently used this method in two tertiary cases, one with positive, and the other with negative blood and spinal fluid findings. In the first case 0.9 of neosalvarsan were administered intravenously and 30 cc. of spinal fluid immediately withdrawn. Examination ten days later showed no trace of arsenic. At this time 0.6 of salvarsan were injected intravenously and 30 cc. of spinal fluid withdrawn. Notwithstanding the fact that the spinal fluid withdrawn the following day was contaminated by a small amount of blood it contained no arsenic.

In my other case 0.6 of salvarsan were injected intravenously; 35 cc. of spinal fluid were immediately withdrawn. Half of this escaped in a stream under considerable pressure. Examination of the spinal fluid 48 hours later showed a trace of arsenic.

Whenever the Swift-Ellis method of intradural injection of salvarsanized serum is justifiable, the intensive combined treatment having been tried and failed, the technic of the originators of the method should be strictly adhered to. It seems to be a common practice to use a serum prepared from blood which shows a positive Wassermann reaction when the spinal fluid is negative to all serobacteriological tests. In my opinion this procedure is altogether unwarranted, and no benefit can result therefrom.

Freyermuth in a recently reported series found that in every case where the spinal fluid became negative the blood Wassermann was negative prior to the treatment with salvarsanized serum.

Another not infrequent error is in the injection of a larger amount of serum than the quantity of spinal fluid withdrawn. An illustration of this may be mentioned which occurred in the practice of a local physician. Eleven centimeters of spinal fluid were removed and 27 centimeters of serum injected. The patient immediately complained of excruciating pain over the entire body which was

only relieved after the withdrawal of 35 cc. of spinal fluid. He was confined to his bed for four days, but finally recovered. In another case worthy of mention the unfortunate patient died two hours after this mistake had been made, the autopsy showing cerebral hemorrhage. Another fatality resulted shortly after the injection of a large quantity of air into the spinal canal, and a third patient died ten hours after the injection of 20 cc. of a salvarsanized serum which had not been inactivated. The value of these observations, however, is lessened by the fact that the complete histories of the cases could not be obtained.

The following brief history was called to my attention by a colleague who had attended the patient. It illustrates the result of faulty antisepsis.

Mrs. A. contracted syphilis in 1901 and received treatment for two years following the appearance of the secondaries. In October, 1913, symptoms of tabes appeared; the blood Wassermann was three plus positive. She was given eight intravenous injections of salvarsan at intervals of one month. These were followed by mixed treatment for four months. Examination of the blood on October 12, 1914, showed a two plus Wassermann reaction. Three more intravenous injections of salvarsan and one injection of neosalvarsan were given at intervals of two weeks. On January 30, 1915, the blood Wassermann was negative, but the spinal fluid showed a three plus positive and a cell count of 34. Thirty cc. of salvarsanized serum were injected intraspinally on February 12, 1915. The headache disappeared and the spinal symptoms improved. On April 6th another intradural injection of 32 cc. was given, marked improvement resulting. All symptoms disappeared, the patient stating that she had never felt better in her life. On May 2nd examination of the spinal fluid showed a one plus Wassermann. On May 8th a third intraspinal injection consisting of 25 cc. of serum was given. The next evening the patient complained of severe headache and pain in the back of the neck. The temperature was 102°. The following day the temperature reached 104°, the next day 106° with delirium. The spinal fluid was very cloudy and contained many pus cells and gram positive bacilli. The Wassermann was negative. Death supervened on May 13th.

The infection was probably caused by the hands of the nurse who had handled the plunger and barrel of the syringe after removing them from the sterilizer.

In the two following cases neosalvarsan was injected directly into the spinal canal. Gordon's patient was a tabetic of 35, whose most prominent symptoms were pain in the lower extremities, ataxia, incontinence of urine and constipation. He had at one time been treated with potassium iodide and mercury. The Wassermann was positive in blood and spinal fluid. After one injection of salvarsanized serum all symptoms improved with the exception of the constipation. Two months later the bladder disturbance returned and this time neosalvarsan dissolved in the spinal fluid was injected directly into the canal according to the

technic of Ravaunt. This was followed by severe pain in the legs and vomiting. Retention of urine and incontinence of feces began. Erythematous patches, later becoming gangrenous, appeared on the penis, scrotum and sacrum. Two weeks later he was unable to walk; sleep was impossible on account of the agonizing pain in the legs. All symptoms became gradually worse until death supervened.

In the other case mentioned in a recent journal of a patient with general paresis, three weeks after the sixth intraspinal injection of neosalvarsan, all of the injections having been tolerated without great discomfort, an acute ascending paralysis of the Landry type developed and death supervened.

In view of such disasters I do not consider advisable the intradural injection of salvarsan or neosalvarsan dissolved either in water or spinal fluid or the addition of these preparations to salvarsanized serum.

CONCLUSION.

My conclusion may be expressed in the form of "Don'ts":

Don't use salvarsan unless positive indications for its employment exist.

Don't expect as much from neosalvarsan as from salvarsan.

Don't give salvarsan in the office.

Don't give salvarsan at too frequent intervals or in too small doses.

Don't omit any details in preparing the solution to be injected.

Don't neglect to filter the solution before it is injected.

Don't cut down on a vein.

Don't inject any of the solution into the tissues surrounding the vein.

Don't administer too large a dose at the first injection, especially in the early secondary stages.

Don't inject salvarsanized serum prepared from a Wassermann positive blood into a canal containing Wassermann negative spinal fluid.

Don't inject a quantity of salvarsanized serum larger than the amount of spinal fluid removed.

Don't inject air into the spinal canal.

Don't use intradural medication under any circumstances until the intensive treatment with intravenous injections of salvarsan, mercury inunctions or injections and potassium iodide has been given a thorough trial.

Discussion.

Dr. M. Krotoszyner: Dr. Stevens' paper contains a wealth of important information on salvarsan therapy, and, therefore, must be considered a valuable contribution to our knowledge of the use and abuse of that important drug. While I agree, theoretically, with Dr. Stevens' objection to the application of the old salvarsan in office practice, I, nevertheless, have been compelled to use it of late, owing to the want of neosalvarsan. Fortunately I have, so far, seen no untoward result, in spite of repeated ambulatory administration of the drug.

Dr. Stevens' objection to neosalvarsan is, in my opinion, too sweeping. It is a very valuable remedy and, in the great majority of cases, perfectly sufficient in its efficacy, while its administration is not fraught with the dangers so often encountered in connection with the old salvarsan.

CHRONIC APPENDICITIS COMPLICATING PULMONARY TUBERCULOSIS.

By JNO. C. KING, M. D., Banning.

All systematic writers upon pulmonary tuberculosis emphasize the frequency of gastric symptoms. Many claim that indigestion, in its various forms, is a necessary concomitant of the disease. The digestive organs are of utmost importance in all chronic diseases because they represent nutrition. In tubercular patients nutrition is almost invariably faulty. They are poor eaters, whether through poverty or habit. Forced feeding and other similar methods have fallen into partial disuse because of their supposed injurious effect upon the digestive organs; and yet, from the standpoint of nutrition they represent an important principle.

I wish to call attention to a point that, according to my observation, has been frequently overlooked. That point is the frequent existence of chronic tubercular appendicitis. I believe the appendix to be especially obnoxious to tubercle. When operating for tubercular peritonitis I have found the appendix more completely involved than other parts of the bowel and mesentery. In the cases to which I refer the classical symptoms of acute appendicitis are absent. The rigidity is not marked, may be very difficult to detect, as if the muscles had become accustomed to the irritation beneath and were no longer on guard. The fever present depends entirely upon the pulmonary condition. Pain in the right iliac is absent. The patient is convinced the stomach is the organ at fault. He cannot take much food without distress; is inclined to eat sparingly. There may be attacks of nausea, perhaps accompanied by vomiting from time to time. He will be constipated and will obtain relief from cathartics. He may have pain in the stomach and many indications of gastric or duodenal ulcer, without occult blood. When the gastric contents are tested there will usually be found hyper-acidity. There may be occasional exacerbations with a little rigidity and tenderness over the appendix. The patient will progress favorably for a time and will then have one of his accustomed attacks of what he terms indigestion which, he insists, will be relieved by a purge. He thinks that if his stomach could only be cured he would recover from his lung trouble—and his opinion is pretty nearly correct. He has been treated by lavage, by dieting, by pepsin and acids, by bismuth and by all sorts of dope. One tries to fatten him and succeeds for a time, then the stomach rebels and he relapses.

He has chronic tubercular appendicitis. If his appendix is removed his indigestion will vanish. It may require some weeks' time for him to recover his power of digestion, especially to overcome the habit of gas formation, but he will get well. I have been astonished to note that several consumptives for whom I had made an unfavorable prognosis entirely recovered from the pulmonary disease after removal of the appendix. I do not know why. Perhaps the cause of the persistent irritation of the digestive organs had been removed, thus giving the patient power to

respond to treatment that had, hitherto, been unavailing. It is not to be assumed for a moment that chronic appendicitis is the basis of all, or of most, cases of indigestion. I do believe that patients who suffer from pulmonary tuberculosis also are burdened with tubercular appendices in more instances than we have been accustomed to recognize. In many of these cases the removal of the appendix will facilitate a cure of the lung disease.

Indeed, it would appear to me that most cases of *chronic* appendicitis are tubercular. I do not mean those which have frank attacks of recurrent appendicitis, but the sluggish, ill-defined cases that are so difficult to diagnose. While discussing this problem with Dr. Browning he informed me that Dr. Rea Smith had expressed to him the same opinion. Dr. Beebe, of Ann Arbor, has recently called attention to the same point. Permit me to report two cases, selected from quite a number, to illustrate two types. A young man referred to me by Dr. Browning came to my Sanatorium very ill with pulmonary tuberculosis. He improved quite a bit, then had what he termed a bilious attack (whatever that is). Had been subject to such for years. Took calomel, on his own responsibility, and claimed he felt all right. However, he had lost weight, his appetite was poor, he felt some indefinite gastric distress. He lost what he had gained and his lungs were more moist and irritable. During a year this history repeated itself. On the whole he improved but each "bilious" attack robbed him of some of his chances. What is biliousness? Pathology answereth not. If modern medicine teaches anything it inculcates the fact that gastric symptoms depend upon a definite pathology. To the layman and to the thoughtless doctor they mean calomel. We have learned that cathartics are absolutely contra-indicated in all acute abdominal conditions. We still have to learn, most of us, that purges should be avoided in pulmonary tuberculosis. There are better methods of "moving the bowels." Three years ago I removed this man's appendix. He promptly recovered from his pulmonary disease and has remained well. Two and a half years ago I did an appendectomy for a young woman who was in the early stage of pulmonary tuberculosis. She had been under my care for months without improvement. Her gastric secretions were normal but her stomach was irritable; no appetite, occasional nausea; much flatulence; muddy skin; slight daily fever. The symptoms were covered by the old phrase "intestinal indigestion." She had taken a course of what her physician called intestinal antiseptics, with purges from time to time. Her lung infection was advancing because mal-nutrition sapped resistance. There were absolutely no symptoms of appendicitis, other than these above recorded—no tenderness, no rigidity. After the operation she rapidly improved and remains well.

I do not believe that administration of ether is contra-indicated by pulmonary tuberculosis. A somewhat extensive experience has taught me otherwise. I have never witnessed "shock" in any consumptive upon whom I have operated. One

last point: when removing an appendix from a tubercular patient we should be careful to remove any enlarged glands in the immediate vicinity, otherwise a sinus is apt to follow. I have noted one instance in my own practice and one, each, in the practice of two other surgeons. Those of us who conduct Sanatoria should do, or have done, all needful surgery in our cases of pulmonary tuberculosis. As I have pointed out upon another occasion these people require a good deal of nose and throat work in order to afford them (some of them) the best chance of recovery from their lung disease.*

NOTES ON SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.*

By THOMAS G. INMAN, M. D., San Francisco.

It seems evident, even to the most critical, that syphilis, as we know it, is the result of invasion of the body by the *treponema pallida*. This organism has been isolated from the primary lesion and from the tissues of the body in the secondary and tertiary periods. It has been secured in pure culture and re-inoculated into susceptible animals has reproduced the disease in the characteristic forms peculiar to the animals experimented upon. That the organism has not been found in the affected tissues in certain of the later appearing lesions is no reason for believing that these structural changes require the intervention of any special condition for their development. They can all be explained as end results of the primary tissue reaction.

It has been shown also that the disease may be propagated without the occurrence of the primary lesion, namely, by inoculation directly into the heart, testicle or blood stream of susceptible animals. Syphilis has been transmitted in man during the operation of transfusion of blood and by accidental wounds received at operation without a chancre appearing at the point of inoculation. This evidence and the not infrequent appearance of syphilis in individuals who have no remembrance of ever having had chancre has led some authorities to believe that, under certain conditions, it may be possible for the spirochete to gain access to the body through an apparently unbroken skin. Certain factors not understood at present render inoculation by other than the usual manner, i. e., into surfaces covered by flat epithelium and well supplied with lymphatics, a rather difficult matter.

The evidence justifying the belief in extraordinary methods of inoculation is sufficient, however, to cause one to assume the possibility of syphilis being present in any case presenting symptoms which may be explained by the presence of this disease even though the history of the patient is undeniably negative.

If one may base an opinion, in this matter, on the known behavior of the *treponema pallida* during its later residence in the body it would seem

probable that, in an otherwise healthy individual with normal resisting power, the organism must first be able to secure a suitable resting place in the lymphatic tissues before its habitation of the body becomes tenable. Beginning with the initial lesion the reaction produced in the tissues by the presence of the spirochete is substantially the same throughout. Whether the effect noted be in the skin, parenchymatous glands or in the central nervous system or its enveloping membranes the presence of the organism in the peri-vascular lymph spaces seems necessary before the characteristic reaction begins. It would thus seem reasonable to believe that syphilis is primarily a lymphatic disease. The early involvement of the lymphatic tissues, the length of time necessary for the disease to become disseminated throughout the body and its apparent progression and persistence in the lymph glands, peri-vascular lymph spaces and lymph cisterns of the central nervous system furnishes evidence in support of this idea.

The later manifestations of the disease are not caused by the organism per se but are determined by the encroachment of new formed tissue accretions upon important functioning structures. Thus partial or complete obliteration of blood vessels with consequent changes due to a lack of sufficient blood supply; the presence of gummatous infiltration causing pressure upon vessels otherwise healthy or upon other structures disturbing their normal physiological function determines the clinical symptoms which occur throughout the course of the disease.

Positive evidence in support of the belief that the central nervous system is involved very early in syphilis is accumulating rapidly. The idea is not a new one for as long ago as 1880 Lang¹ stated that the headache, lassitude and lethargy present in the second stage of this disease were due to meningeal and nervous system involvement. It has been left to improved methods of investigation, however, to show how often and to what extent this involvement occurs.

Routine examination of the cerebro-spinal fluid and more careful and complete investigation of the nervous system, especially those portions of it connected with the organs of sight and hearing, have furnished that positive evidence which was denied to earlier observers. Thus Ravaut,¹ in 118 cases of acute syphilis, noted changes in the spinal fluid in 71; Eicke,² in 136 cases in the primary and secondary stages found alterations in the spinal fluid in 60. Wile and Stokes,¹ Altman and Dreyfus,¹ Fahr¹ and others have noted similar changes. In many of these cases only a single examination was made and the figures, consequently, do not exactly represent the number in which changes might have been found had a number of examinations been undertaken.

Wile and Stokes³ have recently shown that careful examination of the second and eighth nerves together with an examination of the general nervous system will add to the number having a positive spinal fluid. These observers examined twenty-six cases in this manner, and state: "From the point of view of all the methods used by us to ar-

* Abstract of remarks before the Riverside County Medical Society, May 8, 1916.

* Read before the San Francisco County Medical Society, September 14 1915.

rive at the condition of the nervous system, only one of the twenty-six cases in the series was frankly negative, and in this case the eighth nerve was not investigated. Two other patients presented, respectively, exaggerated patellar and Achilles tendon reflexes and slight decrease in bone conduction with normal hearing. The remaining twenty-three cases were positive in two or more particulars of the examination. Changes in the fundus oculi, as indicated by a neuro-retinitis, were noted in twelve of twenty-one cases examined. Eighth nerve involvement, as evidenced by decreased bone conduction and changes in high and low limits of sound perception, was present in eleven of sixteen cases examined. In twenty-two cases subjected to a complete neurologic examination nine were positive in some particular other than the second and eighth nerve involvement."

The figures just quoted represent the demonstrable nervous system involvement as it occurred in the usual run of cases applying for treatment at a dermatologic clinic and does not include those early fulminating types in which the nervous system suffers to such an extent as to place the patient, at once, in the hands of the neurologist.

It seems not unlikely that between the receipt of the primary infection and the end of the second stage there is a generalized syphilis and that the lymphatics in and about the central nervous system receive their proportion of the infecting organism in all cases. That this cannot be demonstrated, clinically or biologically, in every case is not sufficient evidence in proof of the contention that the nervous system frequently escapes.

Whether or not this early infection of the central nervous system is responsible for the later manifestations of the disease such as paresis, tabes and cerebro-spinal syphilis is not positively known. Thus Collins,¹ quoting McIntosh and Fildes, states that "The reason for the slight reaction with a large number of spirochetes in acute syphilis and an extensive reaction with a small number of spirochetes in chronic syphilis is due to the fact that the tissues become sensitized, i. e., become altered in their susceptibility to the action of the virus. This corresponds to the alterations in the reactions produced by certain viruses, the so-called allergy of von Pirquet. The type of hypersusceptibility present in tertiary syphilis is developed as an immunity response of an intoxication of the tissues occurring in the acute stage of syphilis. The actual occurrence of the lesion is due to an exacerbation of activity of spirochetes which have been dormant. When the interstitial tissue of the central nervous system is the sensitized part exposed to the delayed or persistent action of the spirochetes, the result is a gumma. When the parenchyma is the tissue affected, the disease that results is paresis or tabes or both."

Is it not likely that just the opposite of this takes place? That is, that during the progress of the disease an active immunity is produced throughout the body, an immunity which acts upon the syphilitic organisms causing their destruction, or at least inhibiting their activities, in proportion as the immunizing bodies are brought in contact with them;

that the tissues of the body also become immune in proportion as they come under the influence of the immunizing substance; that there exist foci of exudate into which this immunizing substance imperfectly penetrates leaving in the interior an area in which the organisms may remain undisturbed until, as the state of immunity in the surrounding tissues decreases, they again set up their customary local reaction and, finding their way into the lymph or blood stream, reinfect other structures in the body where the state of immunity has ceased to exist. This would be in accord with the so-called "Non-sterilizing immunity" of Ehrlich. Syphilis is a disease which is characterized by numerous remissions, the symptoms disappearing from time to time either spontaneously or as the result of treatment.

The presence of numerous lymph spaces about the central nervous system and the passive state in which these structures exist offers a favorable resting place for the spirochete and may have some influence in determining recurrences in this region. It seems that where these lymph spaces are largest tissue reactions are most common as at the base of the brain and along the posterior surface of the spinal cord.

To state the matter briefly, syphilis evidences itself in the central nervous system first upon the blood vessels and this primary change consists in an infiltration of lymphocytes and plasma cells in and about the arteries and veins with subsequent thickening of the intima and adventitia, a lessening in diameter of the vessel lumen, a coalescence of the perivascular infiltrated areas and the production of a more or less extensive thickening which in the meninges may involve large areas. This is the so-called gummatous infiltration or meningitis syphilitica. A more localized accumulation of the same elements produces the tumor-like masses known as gummata.

To circulatory disturbances in the thickened blood vessels, to encroachment upon the unprotected roots of the cranial and spinal nerves and to pressure upon the brain and cord by the thickened meninges is ascribed the varied picture which we know as cerebro-spinal syphilis.

The secondary changes such as paresis, tabes, myelitis and the like can be explained as end results of the primary changes mentioned above although there are writers who believe that paresis and tabes especially require the intervention of other factors for their production. It is not unlikely that in every case of syphilis a number of influences are always at work in determining the extent of the effect which the invading organism will have upon the tissues. It is only necessary to mention the variation in the virulence of the spirochete, the resistance, or lack of resistance, of the individual, his mode of life and habits, of which, perhaps, the most important are his food, his drink and his work.

That the present day treatment of syphilis of the central nervous system is unsatisfactory is evidenced by the constantly appearing descriptions of new methods of administering the well known specifics mercury and arsenic, to say nothing of the contradictory statements for and against each method.

When the disease has progressed to the extent that conducting tracts are degenerated as in posterior columns in tabes, nuclear degeneration as in cerebro-spinal syphilis or softening of cortical cells and disappearance of fibres as in paresis we may as well admit at once that treatment of any kind will forever prove futile in so far as absolute cure is concerned. But it is often impossible to state that these changes have taken place for extensive gummatous infiltration of the meninges about the frontal lobes may simulate some of the phases of paresis just as a like infiltration in the membranes enclosing the posterior roots may produce a clinical picture not easily distinguished from that seen in some types of tabes. Indeed I believe that one would not be far wrong in expressing the opinion that most of the good results recorded as obtaining in the treatment of paresis and tabes are to a large extent due to the cure of a co-existing meningitis and arteritis.

Treatment, however, must be administered in any case and should be checked up, where possible, by examination of both blood and spinal fluid in order that improvement or the reverse may be noted and treatment governed thereby. Whether the drug selected be mercury or salvarsan, or both, they must be pushed to the limits of the patient's endurance. Nothing defeats the end which treatment is expected to bring about like half-hearted treatment. The spirochete becomes immune to salvarsan and perhaps to mercury also, when administered in quantities insufficient to kill it. One should also remember that the benefits following a dose of salvarsan reach their maximum, in the majority of cases, in forty-eight hours after the dose is administered and after three to five days none of the drug remains in the body. It was because of this rapid elimination that Prof. Wechsellmann⁴ recommended the injection of neo-salvarsan epi-fascially shortly after the administration of the salvarsan, in order that, by reason of its slower absorption, the action of the arsenic might be continuous. The pain caused by the administration of the drug in this manner may be lessened, if not entirely prevented, by first injecting a small amount of a 2% sol. of novocaine in the trial injection used to determine that the needle is in contact with the deep fascia.

Another result of the occasional dose of salvarsan other than that affecting the spirochete may be explained in this manner: Given a mass of exudate into which the drug penetrates with difficulty or not at all, the effect of a single dose is expended on the periphery, the resulting solution of the cellular elements reached by the drug permits the remaining intercellular substance to contract about the mass and its peripheral portion, increasing in density in this manner, forms an additional barrier to the ingress of future medication.

It must also be borne in mind that relief of presenting symptoms affords no assurance that the patient is freed of his infection nor have we any available sure means of telling when he is cured. The Wassermann reaction may become negative, the spinal fluid appear normal, clinical examination

of the nervous system disclose no disturbance of function yet in a year or two the patient returns with a cranial nerve palsy, a syphilitic paraplegia or evidences of an active meningitis. The only positive evidence of cure is shown in the ability of the individual to accept a new infection and this means of proof is, at present, out of the question.

There is a time in the history of every syphilitic patient when a complete cure may be brought about. Clinical experience and experimental evidence show that in salvarsan we have an agent which is capable of destroying the *treponema pallida*, in vivo, if the drug can be brought into contact with the parasite. This effect is to be expected only before the tissue reaction has produced those conditions, mechanical or biological, which seem to protect the organism from the effect of the drug. The ideal to be sought for in syphilis therapy is to prevent the disease from entering upon the second stage. The responsibility, in many cases, rests with the physician who sees the case first.

Too, syphilis is just as much a matter for public control as are smallpox and scarlet fever and it should be a part of the function of public health boards to disseminate literature instructing the laity in the necessity for early treatment, warn them that any genital sore may be syphilitic, provide means for securing adequate treatment for those unable to pay for it and to secure legislation prohibiting treatment of the primary sore by persons not qualified to do so.

A proper appreciation of the syphilis question by both medical men and laity and education as to the greater relative value of early treatment over that administered late in the disease will do much toward abolishing the evil effects of the often incurable tertiaries.

There is much evidence in support of the theory that leptomenigitis is the forerunner of the later and more fixed types of central nervous system syphilis such as paresis and tabes but for our purpose it is not necessary to know by what means these later effects of the syphilitic infection are determined. To know whether by a sensitization of the nerve structures this end is accomplished or whether the spirochete, finding a congenial nidus for hibernation and propagation in the lymph spaces of the central nervous system, secretes itself here until conditions favorable for its active existence present themselves, would be interesting from a scientific standpoint but that with this information the indications for treatment would be any clearer than they are now is doubtful. What must be borne in mind is that all of those conditions which were once known as the para-syphilides are due to infection of the body by the organism which causes syphilis and that, other things being equal, the longer the period of time allowed to elapse after the primary infection before adequate treatment is instituted the greater will be the difficulty of obtaining a cure.

References.

1. Collins, Joseph: J. A. M. A., July 10, 1915, 139.
2. Eicke, Hans: Münch. med. Wochenschr. No. 49, 1913.
3. Wile and Stokes: J. A. M. A., May 1, 1915, 1467.
4. Wechsellmann, Prof.: Personal communication.

ROUTES OF INFECTION IN TUBERCULOSIS.*

By W. OPHÜLS, M. D., San Francisco.
(From the Pathological Laboratory of Stanford University Medical School.)

There is no subject about which there has been so much controversy as about the exact way in which the virus of tuberculosis gains access to the human body and in which it is disseminated after it once has gained entrance. Still when we carefully sift the evidence, we cannot fail to perceive that there is a considerable amount of accurate information at hand, the issues appearing hazy and befogged only through the constant, insistent reiteration of certain convictions by those who in some way or another have become engaged in defending some more or less exclusive theory.

Baumgarten of Tübingen, as you all know, has held for many years that tuberculosis of all forms is most commonly acquired in utero. A transmission of the disease in this case might arise either by means of infected sperm or through the placenta, a primary infection of the ovum before fertilization being very unlikely.

It is a well established fact that the semen of tuberculous individuals contains tubercle bacilli not so very rarely even in the absence of any tuberculous disease of the genital organs, and the possibility certainly exists that by means of such infected semen the developing ovum might become contaminated. This interesting question has been very carefully studied experimentally in rabbits by Friedmann,¹ who comes to the following conclusions: "It should be regarded as proved that tubercle bacilli can enter the fertilized egg cell, that the latter does not perish as a result of the invasion, but may develop into a well-formed animal. In addition, the bacilli transmitted in this way may still be present in certain organs of the new born. On the other hand, it is proved that the rabbit embryo does not become tuberculous in spite of the bacilli it has received in statu nascendi nor the young animal either in the first time of its post-embryonic life." As a result of this investigation the much less rigidly controlled, similar positive experiments of Karlinski² on goats fall to the ground, especially since in his animals the infection appears to be closely associated with the alimentary tract. The possibility of a direct infection of the fetus from a tuberculous father may therefore be safely excluded from practical consideration.

As a result of Schmorl's³ work we know that tuberculous infection of the placenta is much more common than was believed formerly. In 20 pla-

centae of tuberculous mothers he found manifest tuberculosis in three, and few scattered microscopical foci in six. In spite of this fact, evidence of congenital infection in man is extremely rare, and from what we know of the lack of resistance of the tissues of young children to tuberculous infection, we are not at all warranted in assuming that such infections would remain latent for many years to become active at the time of puberty or even later, as has been suggested by some. If infants do become infected, as they naturally sometimes will, their disease makes rapid progress, and at autopsy is found very extensive and widely disseminated, the appearance of the disease being very similar to that which we find in the least resistant animals, like guinea pigs.

There is no question that small children frequently infect themselves with the dirt which gains access to their mouth from their constantly soiled fingers, as emphasized by Volland.⁴ Tuberculosis of the tonsils, or cervical glands, or both, is a very common result, and naturally bacilli taken up in this way may be carried either into the lungs or into the alimentary tract, and may set up foci of infection in those regions. However, even in children, it is becoming apparent more and more that the most common mode of infection is by means of the aspiration of infectious material into the lower respiratory tract. Unquestionably a certain percentage of children, variously estimated from about 15% to 25%, become infected by the alimentary route and in these cases the ingestion of bovine tubercle bacilli in contaminated milk seems to play a certain role, but of these same children some acquire a simultaneous or subsequent infection by way of the tonsils or the respiratory canal or both. Such a case of apparently triple infection of a baby nine months old has been described by me in a previous paper.⁵ In adults the clear cases of primary intestinal infection are much less common. In a series of cases of my own, for instance, I found them to represent about 6% of the active cases of tuberculosis among adults. The extensions of the process in these cases, if there were any, were largely in the abdominal cavity involving the mesenteric glands, the peritoneum, the genito-urinary tract in the male, the internal genital tract in the female, the adrenals, and the liver. In a comparatively large proportion the fatal termination was due to acute or subacute disseminated tuberculosis.

The original anatomical conception of a primary infection of the lungs in ordinary cases of chronic pulmonary tuberculosis of the adult, has been greatly strengthened not only by more careful anatomical investigation of incipient stages, but also by experimental evidence. Birch-Hirschfeld's⁶ anatomical studies which have been amply confirmed by later investigators will always remain classic in this regard. He demonstrated the fact, that in the vast majority of cases fairly large bronchi in the posterior part of the apical portions of the lung are primarily affected. Occasionally only did he find the primary focus in the pulmonary tissue itself, when it is naturally much more difficult to tell in which way exactly the infectious material had en-

* Read before the San Francisco County Medical Society, December 28, 1915, Eye, Ear, Nose and Throat Section.

tered this organ. It has also been shown by Schmorl⁷ that, when the lungs do become infected by way of the blood current from some other focus, that the distribution and later development of the lesions is entirely different from that in ordinary pulmonary tuberculosis.

The strongest *experimental* evidence which we possess in favor of the frequency of pulmonary infection, is the fact that susceptible animals can be inoculated much more readily by the respiratory than by the intestinal route. The first tentative comparative experiments in this regard were conducted by Gebhardt (1890) and Preyss (1891), but the most careful work in this direction was done by Findel⁸ in Flügge's laboratory in 1907. Findel found that, in case of inhalation, 62 tubercle bacilli approximately constituted a certainly infectious dosis for grown guinea pigs, whereas he obtained no results, when 6000 times this number was introduced into the alimentary canal with the food. It seems, that it takes probably a dose one million times larger than the one that kills by the respiratory route, to effect an infection by way of the alimentary canal in these animals, and the same holds true for other species of mammals that have been investigated. In fact, some resistant animals like rats can be infected by the aerial route comparatively easily, by the intestinal practically not at all.

It would also appear from Findel's records, that the disease produced in his guinea pigs by the aspiration of few bacilli resembles pulmonary tuberculosis in man in so far as it is more chronic; the tubercles become larger and show cavitation. The peculiar localization of the lesions at the apices is not reproduced, however.

It is true, that more or less isolated pulmonary lesions have been produced in resistant animals by subcutaneous injection or in susceptible animals by introduction of tubercle bacilli into especially resistant organs like the bladder, but I cannot believe that these experiments are directly applicable to human pathology so far as pulmonary tuberculosis is concerned.

The usual localization of the virus in man in the apices is still a very puzzling problem, in spite of much ingenuity displayed in attempts at finding its solution. Are the tubercle bacilli carried more easily to this part of the lung? If not, is there any special difficulty in eliminating them after they have arrived there? Is perhaps the apical tissue less resistant to tuberculosis than the rest of the pulmonary tissue, on account of a relative anemia, for instance? These are some of the many questions which have been asked. It has been stated in a general way, that the apices in man are poorly ventilated; I believe, without much justification. One is apt to forget, that the lungs are of a wonderfully equally distributed elasticity throughout, which elasticity causes them to expand equally throughout, wherever the pull may be. This extension of the elastic pull all over the lung is greatly facilitated by the fact that they are not fastened on the surface, but slide easily against the chest wall, which movement may be observed very clearly on direct inspection through the intact

pleura. As a matter of fact, the apical parts of the lungs of *animals* would appear to be in a much worse condition so far as ventilation is concerned than the same region in man. It is true, they do not project as much above the upper aperture of the thorax, but the breathing in animals is entirely abdominal, whereas in man even in quiet breathing there is some excursion to the upper part of the chest, and yet animals do not develop apical tuberculosis either spontaneously or experimentally.

I am convinced, that ordinarily the apical parts of the lungs in man are as well ventilated if not better than others, the posterior lower parts, for instance; for one reason on account of the shorter reach to the main bronchi. I also cannot believe that even in the erect posture there could be enough of a difference in the circulation in the upper and lower parts of the lung to account for any difference in resistance. That there should be a mysterious lack of resistance in the apical portions to infection in general or to tuberculosis in particular, is equally unproved. The only tangible difference, which remains is this, that in forced expiration air may be driven up into the apices on account of their not being enclosed in the rigid wall of the thorax. In this way infectious material in the bronchi might be thrown up toward the apical parts of the lung. This would mean, that infected material breathed in *in man* would not be carried at once to the finer ramifications of the bronchial tree, but would be deposited in the large bronchi near the bifurcation where it would be received in the bronchial mucus, and in most cases expectorated.* During forced expiration such infected mucus might be carried up by a sudden rush of air into the bronchi of the apices, where an infection may result in the more delicate mucous membrane. This assumption also would give at least some explanation why the infection of the apices so frequently takes place on both sides more or less simultaneously.

One would imagine that the distribution of dust, more especially of coal dust, in the lungs of man, would give some clue in regard to the probable distribution of aspirated infectious material, and it has been claimed, that such dust did accumulate in larger quantity in the apical parts of the lungs. One should not forget, however, that disease often contributes to effect this localization. It is well known that dust of this kind accumulates in areas of chronic inflammation and since the majority of individuals have old scars in their apices, the apices naturally appear more deeply pigmented. The normal distribution of dust can be studied only in perfectly healthy lungs, and we all know, that they are the exception rather than the rule. I have lately looked over a series of such lungs, and I find that under these circumstances the distribution of the coal dust is remarkably general, but that the posterior parts of the lungs are somewhat more deeply stained than the anterior ones, both in upper and lower lobes. There is no striking excess of pigment in the usually infected region in the apices

* That such aspirated material may remain in the bronchi for weeks before being eliminated, is brought out very clearly in Arnold's experiments on dust inhalation. (Arnold: Staubinhalation und Staubmetastase. Leipzig, 1885.)

either in early or late stages of uncomplicated anthracosis.

The attempts by Freund, Hart,⁹ and others to deny the general predisposition of the apices to tuberculous infection, and to substitute instead an individual disposition due to disturbances in development or use of the upper aperture of the chest are seriously weakened by the fact that so many individuals, variously estimated from 60% to 90% or more, do contract a tuberculous infection of their apices from which the vast majority recover spontaneously. If the local predisposition by anomalies of the upper aperture of the chest is so widely disseminated in the human race, it loses much of its interest. If it is not a question of favoring infection, but of favoring the development of the disease, then we have other and much more substantial general factors to fall back on than such at best illy defined local conditions, quite apart from the fact that we are fairly certain, that stopping the respiratory excursions rather favors healing of tuberculous processes than otherwise. The well-known experiments of Bacmeister¹⁰ are very interesting, but hardly reproduce conditions such as we find them in man. I may merely state, that in practically all his experiments there were other foci in the lungs of the same age as the one at the apex, in order to point out one of the differences, and there are others which it would lead me too far to enter into on this occasion.

These considerations about the sources of infection in the ordinary cases of tuberculosis may not be of overmuch interest to men engaged in the specialties, still I could not refrain from saying this much, because I am firmly convinced, that the specialist should be possessed of the best knowledge in general medicine first, before undertaking special work in any part of the human anatomy. The human body is a whole first and all the time; it is only we who for our own convenience and often not less to our confusion try to break it up into its component parts. It is one of the most promising signs in the development of modern medicine, that this is being realized more clearly from day to day all over the civilized world.

You are all familiar with the fact that the tonsil is a frequent point of entry for tuberculosis, more especially in children. About 5% of tonsils of children selected at random for examination show histological evidences of tuberculosis and very frequently tubercle bacilli seem to pass through them to the regional lymph glands without producing any local infection. Secondary infections of the tonsils in cases of pulmonary tuberculosis are even more common. Other parts of the upper respiratory and alimentary tract are much less frequently exposed to primary infection.

There are few cases in literature of well authenticated infection with tuberculosis by way of decayed teeth, but the observations of Partsch¹¹ and Euler¹² prove conclusively that such infections may occur occasionally.

In connection with the usual anatomical seat of the pulmonary infection in a small bronchus, it is interesting to recall, that primary infections of the

larynx or trachea and larger bronchi occur once in a while, as one would presume if he accepts the theory of the conveyance of the disease by means of the air. This is well known in case of the larynx, but Gidionsen,¹³ Hedinger,¹⁴ Hansemann, and Schmorl have described cases in which the primary focus, usually in the form of a tuberculous ulcer, was in the trachea or one of the main bronchi. In these cases the most careful search for possible primary lesions elsewhere failed to reveal any.

Steward¹⁵ has collected the records of 100 patients with tuberculous infection of the nose. Of these, more than one-half (58%) appeared to be primary clinically. Even if we make allowance for the fact that clinically one cannot exclude a focus elsewhere with certainty, the figure is suggestive. The most common site is the anterior part of the septum. The disease appears as an infiltration with or without ulceration or sometimes in the form of tumor-like masses of slow growth which may project into naso-pharynx. It is especially these tumor-like cases which usually seem to be primary. Tuberculosis of the accessory sinuses, except by extension in nasal lupus, appears to be exceedingly rare.

The relations between the conjunctiva, the lachrymal passages, and the nose being such close ones, it is not surprising that Hinsberg¹⁶ in nine cases of tuberculosis of the nose found disease of the lachrymal passages or of the eye and its surroundings in five.

The mode of infection in tuberculosis of the conjunctiva has been much discussed. Casali¹⁷ on the basis of his experiments, believes that the infection is usually an exogenous one, whereas Stock¹⁸ reports a severe tuberculosis of the conjunctiva in a rabbit 4½ months after intravenous injection of tubercle bacilli. There are several cases on record of what was clinically regarded as primary tuberculosis of the conjunctiva. The most convincing observation of this kind appears to be the one described by Thompson.¹⁹

For practical purposes it is well to remember that a considerable proportion of cases of empyema of the lachrymal sac are tuberculous (Bribak, 2 in 16; Stock, 6 in 106).

The skin is so well protected, that a primary infection of the same is rather exceptional. We all know of the tubercles in the skin of the hands of pathologists and similar lesions observed in butchers who handle much tuberculous material; but otherwise infection by contiguity from mucous membranes or from tuberculous glands (Jones²⁰) or by way of the blood current seems to play a more important role than is commonly believed, except of course in the direct sputum infections of the skin of the hands and elsewhere, which are fairly common in consumptives.

One of the most interesting chapters of my subject is that on the tuberculosis of the middle and inner ear. We can roughly distinguish between tuberculosis of the middle ear in children, tuberculosis of the middle ear in consumptives, and more or less isolated tuberculosis of the mastoid both in children and adults. We owe much of our

knowledge of the pathology of these conditions to Habermann,²¹ who did his work in Chiari's laboratory in Prague. He became convinced that the infection in many cases was primarily one of the mucous membrane of the middle ear, and he first gave a clear account of the mode of infection, which undoubtedly is the usual one in consumptives. He said "that the tubercle bacilli attached to small particles of sputum are thrown in coughing through the Fallopian tube into the middle ear." He did not, however, deny the possibility of a hæmatogenous infection. How frequently such hæmatogenous infections occur and under what circumstances has been much discussed without leading to any general agreement. The cases are usually examined so late that it is impossible to still trace the mode of infection. In the cases of tubercular mastoiditis especially, infection by way of the blood current has suggested itself, but it has also been pointed out, that in them tubercular lesions in the mucous membrane of the middle ear are never lacking. The fact that the mucous membrane is often involved primarily, does not in any way prove that the infection must have taken place from the surface. Körner²² suggests that tubercle bacilli may be carried from infected tonsils by way of the lymph current along the path of the Fallopian tube. Hæmatogenous infection, on the other hand, does not necessarily mean primary infection of the bone; there is no reason why the blood current should not carry the tubercle bacilli to the mucosa as well. If, however, one could prove that certain forms of tuberculosis of the ear were primarily located in the bone, then no other form of infection except the hæmatogenous could be considered. This is what Barnick²³ attempted to do, but he himself does not claim that his investigations are conclusive in this regard, only suggestive. Henrici²⁴ is much more positive that all cases of tuberculosis of the mastoid in children are hæmatogenous and primarily located in the bone. Brieger²⁵ in his monograph published in 1913 sums up the situation as follows: "It is probable that the transportation of the tubercle bacilli to the middle ear usually occurs by way of the Fallopian tube. Tubercle bacilli may also enter the *mucosa* of the middle ear by way of the blood current. Hæmatogenous infection in middle ear tuberculosis does not mean primary localization in the bone. It is not proved, that the marrow is the point of origin of certain forms of middle ear tuberculosis." In this last assertion he is undoubtedly correct, but the opposite is just as true and from more general pathological considerations it would be quite remarkable, if tuberculosis of the bone should not occur in the region of the middle ear, especially in children. I do not think, therefore, that it is wise to embrace any too exclusive view on the subject, and although the infection of the ear in consumptives undoubtedly most commonly takes place in the way described by Habermann, in other forms of tuberculosis of the ear the possibility of hæmatogenous infection either of the mucous membrane or of the bone should always be considered.

References.

1. Friedmann: Experimentelle Beiträge zur Frage kongenitaler Tuberkelbazillenübertragung und kongenitaler Tuberkulose. Virch. Arch., 1905, clxxxi, 150.
2. Karlinski: Zur Frage der sog. germinativen Tuberkulose bei Tieren. Zeitschr. f. Tiermed., 1905, ix, 411.
3. Schmorl: Ueber die Tuberkulose der menschlichen Plazenta. Verhandlung der deu. path. Ges., 1894, vii, 94. ——— und Geipel. Münch. Med. Woch., 1904, li, 1676.
4. Volland: Ueber die Art der Ansteckung mit Tuberkulose. Berl. klin. Woch., 1899, xxxvi, 1031; Zeitschr. f. klin. Med., 1899, xxiii, 50.
5. Ophüls: Some Remarks on the Mode of Infection and of Dissemination of Tuberculosis in Man, based on Anatomical Investigation. Transactions vii, annual meeting of Nat. Tuberc. Assoc.
6. Birch-Hirschfeld: Ueber den Sitz und die Entwicklung der Lungentuberkulose. Dcu. Arch. f. klin. Med., 1899, lxiv, 58.
7. Schmorl: Zur Frage der Genese der Lungentuberkulose. Münch. Med. Woch., 1902, il, 1379, 1419.
8. Finkel: Vergleichende Versuche über Inhalations- und Fütterungstuberkulose. Zeitsch. f. Hyg., 1907, lvii, 104.
9. Hart: Die anatomischen Grundlagen der Disposition der Lungen zu tuberkulöser Erkrankung. Ergeb. der allg. Path., 1910, xiv, 337.
10. Baumeister: Die Entstehung der Lungephthise. Mitt. aus den Grenzgeb., 1911, xxtii, 583; 1913, xxvi, 630.
11. Partsch: Die Zähne als Eingangspforte der Tuberkulose. Deu. Med. Woch., 1904, xxx, 1428.
12. Euler: Ein Fall von tuberkulösem Granulom. Deu. Monatschr. f. Zahnheilk., 1906, xxiv, 177.
13. Gidlönsen: Ein bemerkenswerter Fall von Tuberkulose der Trachea, etc. Münch. Med. Woch., 1901, xlviii, 1651.
14. Hedinger: Primäre Tuberkulose der Trachea und der Bronchien. Verh. d. deutsch. path. Ges., 1894, vii, 83.
15. Steward: Tuberculosis of the nasal mucous membrane. Guy's Hosp. Rep., 1897, liv, 149.
16. Hinsberg: Ueber Augenerkrankungen bei Tuberkulose der Nasenschleimhaut, etc. Zeitschr. f. Ohrenheilk., 1901, xxxix, 3.
17. Casali: Secondo contributo sperimentale alla patologia della tubercolosi della congiuntiva. Ann. di otolm., 1911, xl, 279.
18. Stock: Experimentelle Untersuchungen über experimentelle endogene Tuberkulose der Augen bei Kaninchen. Klin. Monatsbl. f. Augenh., 1903, xli, 228.
19. Thompson: Report of a case of primary tuberculosis of the conjunctiva. Ann. of Ophth., 1906, xv, 76.
20. Jones, H. E.: "Lupus vulgaris" arising secondary to tuberculosis lymphatic glands. Br. Journ. of Derm., 1907, xix, 305.
21. Habermann: Ueber tuberkulöse Infektion des Mittelohrs. Zeitschr. f. Heilk., 1885, vi, 367; 1888, ix, 131.
22. Körner: Die Tuberkulose des Ohres und des Schläfenbeines. Schmidt's Jahrb., 1906, clxxxix, 129.
23. Barnick: Klinische und pathologische-anatomische Beiträge zur Tuberkulose des mittleren & inneren Ohres. Arch. f. Ohrenheilk., 1896, xl, 81.
24. Henrici: Die Tuberkulose des Warzenfortsatzes im Kindesalter. Zeitschr. f. Ohrenheilk., 1904, xlviii, E. H.
25. Brieger: Die Tuberkulose des Mittelohrs. Jena., 1913.

Discussion.

Dr. C. F. Welty: As to tuberculosis of the nose, I agree absolutely with what the doctor has to say; about the tonsils, I am also of the same opinion; but when you come to discuss tuberculosis of the ear, there are so many phases that I will probably forget some of the things I want to say.

In the first place, you must bear in mind that tuberculosis of the ear never appears as such. You always have a discharging ear, and grafted on to your discharging ear, your tuberculosis appears; that is worth thinking of a great deal. If the tuberculosis entered by the blood stream you would have a spontaneous tuberculosis of the ear, which as yet we have been unable to diagnose.

Politzer's teaching about acute purulent otitis in tubercular individuals was this: Never allow that otitis to last for more than six weeks. In other words, operate your otitis without mastoid symptoms. The reason that he recommended operation was because of the infection that might follow, and an ear that is infected by tuberculosis will not get well by itself.

Here is another thing that the doctor calls attention to, in regard to the infection of bone. It is a known fact that tubercular ears in tubercular individuals (I am speaking only of proven cases of tuberculosis) usually succumb to meningitis by way

of the labyrinth. Many of the cases of chronic suppurative otitis media that have tuberculosis die if not operated on. Reasoning in such a way, we must believe that it is inoculated by way of the Eustachian tube rather than from the blood stream.

Dr. J. J. Kingwell: I want to state a case which has been in my hands for the last two weeks—a patient with positive tuberculosis of the intestines and lungs. Two weeks ago she had a coughing spell, followed by a severe pain and fullness in the ear. Within two days she sent for me. The canal had the appearance of an acute otitis—drum bulging, hyperemic. I did a paracentesis, but found no pus or serum. It was treated antiseptically. About a week ago I was called to see her again. The mucous membrane was swollen and pus exuded. A swab taken from the same proved positive tubercle bacilli. There are no symptoms of mastoiditis.

Dr. H. S. Moore: Speaking of tuberculosis of the nose or larynx: In a short paper I read a few months ago, I said I really believed it would be proven that there are no primary infections in the larynx; there may be in the nose. I ran a series of 200 cases in the Tuberculosis Clinic of Stanford having this point in mind, and Dr. Clark, the internist, always found the primary lesion elsewhere.

Dr. H. B. Graham: I want to thank Dr. Ophuls for the remarkably clear paper he has presented, and compliment him on the way he stuck to his subject—so much better than we get in our discussion.

I think we have not yet enough data to make a decision as to whether or not primary tuberculosis of the larynx actually occurs. The teaching in Vienna by Albrecht—who made a special study of tuberculosis throughout the body, its routes of infection—was that primary tuberculosis of the larynx was practically unknown, and that if it did occur, it was practically unknown to him. At one period, when he was working in the Allgemeine Krankenhaus, he found that in all cases of tuberculosis of the larynx, he could find healed active or passive lesions in the lungs or other portions of the body, which seemingly antedated the lesions in the larynx.

I believe in most of the cases that we say clinically are cases of secondary tuberculosis of the larynx, the route of infection is by the lungs and bronchial lymph nodes, or by sputum coughed up into the larynx. I simply repeat what Albrecht gave us in our work there, so my remarks are based entirely upon his findings.

I have been much interested in the subject of tuberculosis of the ear and the route of infection there because two years ago I had occasion to operate a case of tuberculosis of the nasopharynx in whom I had some time before made a diagnosis of tuberculosis of the middle ear. The patient was a very healthy woman of 35 who showed no evidences of ever having had tuberculosis of the lungs. She had a typical picture of tuberculosis of one ear which had healed spontaneously, leaving a latent labyrinthitis. When I saw her she had a picture of an acute middle ear tuberculosis on the other side. I hesitated about operating that side because she had already lost the one ear. In the course of my observations I found a granulating area on the vomer. It was limited entirely to the septum and was ulcerated and not lupoid. The lesion was curetted and sent to the microscopist and was returned with the diagnosis of tuberculosis. The lesion in the nasopharynx healed under cauterization and curettement after two months.

I am pretty positive that in this case the route of infection was from the nasopharynx into the ears. I do not believe that was a hematogenous infection; I do not believe, with Dr. Ophuls and the men he has quoted, that the route of infection is hematogenous but by the Eustachian tube.

I had occasion to look over the literature about

a year ago for a paper which is to be published very soon on tuberculosis of the middle ear, and in all the literature I never found a case where there was not a very grave doubt of the hematogenous origin of the tuberculous lesion. The cases in the English literature are simply worthless; those in the German literature are very doubtful. It is so easy to believe that the tubercle bacillus may be coughed up into the Eustachian tube that it seems to be stretching the imagination to take that tubercle bacillus through the body in the blood stream.

A STATISTICAL STUDY OF RABIES IN CALIFORNIA.

By J. C. GEIGER, M. D.

Assistant Director, Bureau of Communicable Diseases of the California State Board of Health, Berkeley.

Since 1909, and until recently, rabies has been epidemic in California. Despite the dissemination of knowledge in regard to the control of the disease, rabies among animals in California steadily increased. The height of the epidemic has been reached and passed, and rabies may be considered under control except in Modoc and Lassen counties.¹ This is partly due to the peculiar tendency of an epidemic of rabies to spend itself, the measures instituted for control, and the fact that the disease has become endemic in the more populous communities.

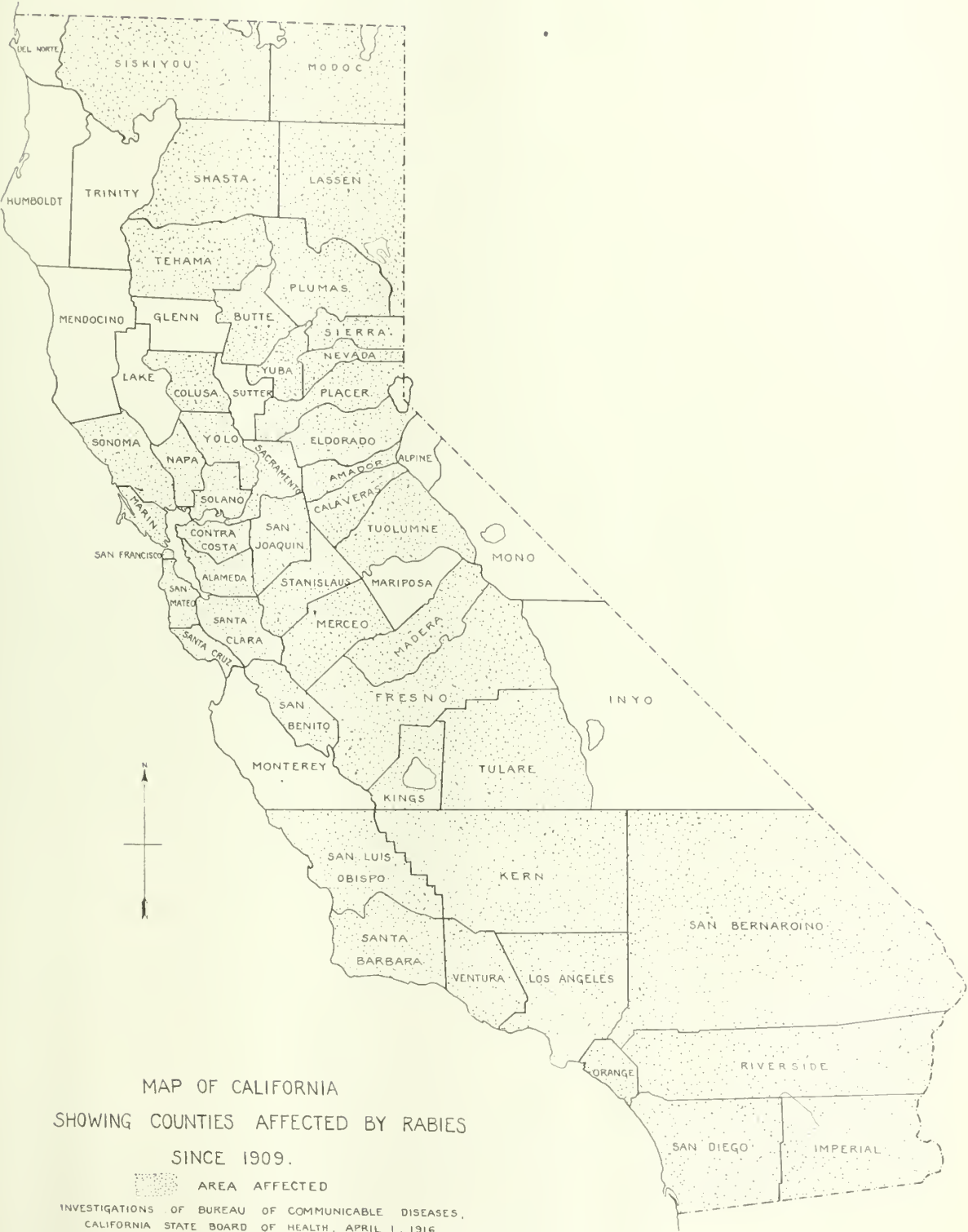
The advent of the disease in coyotes in Modoc and Lassen counties, which was accomplished through infection traveling from Oregon and Nevada, was made the basis of a remarkable campaign against these animals by the California State Board of Health. The financial loss in livestock alone in Modoc and Lassen counties from rabies places this disease in the forefront as the enemy of the cattle and sheep men. Therefore, the prompt eradication of rabies is a necessity, both in city and rural communities, because of the serious element of human danger on the one hand, as shown by the large number of deaths from rabies in human beings in California, and from an economic standpoint on the other, as shown by the experience of Modoc and Lassen counties.

RESULTS OF LABORATORY EXAMINATIONS.

Beginning April 1, 1913, and ending March 31, 1914, 427 examinations of the brains of animals for rabies have been made in this laboratory. Of these specimens, nine were in such a state of decomposition as to make examination impossible. Seventy brains gave negative results and 348 were found positive. Three hundred and thirty-nine of the positive cases were diagnosed by the finding of Negri bodies and the balance by inoculation into rabbits and guinea-pigs. The animals affected were as follows: 317 dogs, 14 cows, 11 cats, 4 horses, 1 goat, 1 coyote.

We have received reports of the biting of 235 human beings and 207 animals by the animals proved positive by our examinations. As to months, the highest number of examinations were made in the cold months, December and January. This does not substantiate the popular belief in increased prevalence in summer. Twenty-five posi-

¹ Geiger, J. C.: Is Rabies Under Control in California? Cal. State Jour. Med. February, 1916.



tive examinations were made in April, 22 in May, 23 in June, 22 in July, 25 in August, 21 in September, 38 in October, 20 in November, 44 in December, 43 in January, 34 in February, and 31 in March. The counties affected were as follows: Alameda 83, Santa Clara 50, San Joaquin 29, Placer 26, Fresno 20, Contra Costa 15, San Mateo 15, Kings 13, Sonoma 12, Sacramento 10, Nevada 9, San Bernardino 7, Stanislaus 7, Tulare 7, Butte 6, San Diego 6, Los Angeles 5, Merced 5, San Francisco 4, Napa 4, Calaveras 4, Amador 3, Imperial 3, Tehama 2, Marin 2, San Benito 2, Santa Cruz 2, Kern 2, Solano 1, Orange 1, El Dorado 1, San Luis Obispo 1, Yolo 1, Riverside 1, Ventura 1, Colusa 1. This makes a total of 36 counties against 31 of the previous year. One positive examination was made for the Oregon State Board of Health.

It must not be forgotten that diagnostic and other work is also done by municipal and private laboratories. For instance, the laboratory of the San Francisco Board of Health has made 71 positive examinations from April 1, 1913, to March 31, 1914; the laboratory of the City of Sacramento 3, the laboratory of the City of Los Angeles 2, and the laboratory of the City of Oakland 185. These figures show a remarkable redistribution of the areas of greatest involvement. This is strikingly shown when the figures are contrasted with those of the preceding year, which are as follows: San Francisco Health Department 279, Los Angeles 22, Sacramento 29, and Oakland none.

Beginning April 1, 1914, and ending March 31, 1916, a period of two years, 239 positive examinations of the brains of animals for rabies have been made in this laboratory. Of these, 10 were proven positive by animal inoculation, and the balance by the finding of Negri bodies on microscopical examination. The animals affected were as follows: 130 dogs, 45 coyotes, 27 cows, 16 calves, 8 cats, 4 horses, 3 sheep, 3 human beings, 2 bobcats, and 1 goat.

We have received reports of the biting of 142 human beings, 165 animals by the animals proved positive by our examinations. The counties affected were as follows: Modoc 78, Lassen 31, Alameda 19, Santa Clara 12, Fresno 11, Tulare 10, San Mateo 9, Contra Costa 7, Santa Cruz 7, Shasta 7, Kings 7, Tuolumne 6, Imperial 5, Stanislaus 4, Riverside 4, San Diego 3, San Benito 3, Siskiyou 2, Madera 2, Los Angeles 1, Napa 1, Placer 1, San Joaquin 1, Sonoma 1, Nevada 1, Santa Barbara 1, Tehama 1, Sacramento 1, Plumas 1, Sierra 1, and Yuba 1.

It is interesting to note the large number of animals proven positive that were received from Modoc and Lassen counties. Yet this number, large as it is, and representing only a period of a few months, is no index to the actual number of cases of rabies that have occurred in these counties. The large number of positive cases, practically sudden in their appearance, is what can be expected when rabies makes its appearance in a community where heretofore it never existed.

Two positive examinations were made for the

Oregon State Board of Health. The laboratory of the City of Oakland in this period reports 43 positive examinations, the laboratory of the City of Los Angeles 20, the laboratory of the City of San Francisco 11, and the laboratory of the City of Sacramento 5. Considering the 970 positive cases reported up to April 1, 1914,² we have as a grand total 1,897 positive examinations for rabies in the State of California for the present epidemic up to date, 1,078 of which were dogs.

PASTEUR TREATMENT.

The widespread prevalence of rabies in California, as shown by the figures just presented, has made it necessary that the large number of persons bitten by animals known or suspected to have been rabid, to take the preventive treatment for rabies. The State Hygienic Laboratory and its branches, as well as bacteriologists deputized by the California State Board of Health in different cities of the State and at the Letterman General Hospital and the Mare Island Navy Yard, administer the Pasteur treatment free of charge. The treatments are given on the approval of the local health authority of the application of the patient, parent or guardian that it would be a hardship to pay for the treatment at the usual rates.

The 436 persons treated with virus obtained from this Bureau came from the several counties as follows: Alameda 139, San Francisco 75, Los Angeles 51, San Diego 21, Santa Clara 18, Sacramento 17, Placer 12, Contra Costa 9, Santa Cruz 9, Fresno 8, San Joaquin 8, San Mateo 7, Napa 6, Orange 6, Modoc 6, Ventura 5, Stanislaus 5, Butte 3, Sonoma 3, Kings 3, Shasta 3, San Bernardino 3, Amador 2, Yolo 2, San Luis Obispo 2, Lassen 2, Tehama 1, Monterey 1, Placer 1, Santa Barbara 1, Tulare 1, Marin 1, Sierra 1. Two treatments were supplied to the Arizona Board of Health, one to the surgeon in charge of the Mare Island Navy Yard, and one to the surgeon in charge of the Letterman General Hospital, Presidio, San Francisco.

The infection came from the bites of dogs in 403 instances, in nine cases from the bites of cats, and in four cases from the bites of coyotes. Six people were exposed to rabid cows and three to horses. Nine persons took the treatment as a precaution against exposure while doing laboratory examinations for rabies. The two remaining cases were inoculated with virus from human cases, one because of a bite and one because the saliva contaminated a fresh open burn.

Considering the number of persons treated during the time under consideration, 436, and the 205 persons treated and reported in a previous paper,² we have the sum total of 641 persons treated with virus manufactured by this Bureau. The scheme of treatment that has been in use at this Bureau up to April 1, 1916, has been the same as described in Bulletin No. 65 of the Hygienic Laboratory of the United States Public Health Service.

² Geiger, J. C.: The Work of the Pasteur Division of the State Hygienic Laboratory. Cal. State Jour. Med. August, 1913.

Of the cases of rabies in human beings, three were true failures of the Pasteur treatment, all being severely bitten, two near the central nervous system. Eliminating all persons treated who were not bitten, the percentage of failures with virus supplied by this Bureau was .491, less than $\frac{1}{2}$ of 1 per cent. These statistics are extremely important and unique because of the fact that in over 98% of the persons bitten, the animals doing the biting were checked by laboratory examinations, with positive results.

There were few ill effects following the Pasteur treatment during the period under consideration. In one case treated at this Bureau, some weeks after treatment there was a peculiar twitching of the muscles of the right side of the neck. In another patient 11 days following the completion of the treatment there was severe pains in the left eye, later affecting the side of the face. This was present at intervals for about a week. In one of the cases there was vomiting. This occurred every day for a short period of time and stopped after the completion of the Pasteur treatment. In another patient the local reactions that usually appear on certain days of the treatment from different strength virus occurred after each injection. In four instances subcutaneous abscesses developed. The only serious complication reported was a slight paralysis of the lower limbs, with prodromal symptoms of nausea and diarrhea, which occurred several days after the completion of the Pasteur treatment.

The large number of persons to whom the Pasteur treatment was administered, with the resulting low mortality, is sufficient evidence of its efficiency. Rabies being one of the easily eradicated infectious diseases, there should be no excuse for its presence in any community. The dog, as it has been aptly put, being the principal reservoir of the disease, eradication can be accomplished surely and expeditiously by rigid enforcement of muzzling plus a strict interstate quarantine of at least six months. In California, now that the disease is rampant in the coyote, there is urgent need of active state co-operation with the United States Biological Survey in their commendable campaign of destruction of the predatory animals.

DANGER OF BATHS IN PATIENTS SUFFERING FROM ARTERIO-SCLEROSIS.*

By DR. WILLIAM WATT KERR, San Francisco.

As the time of year is at hand when people are arranging to leave town for the summer months the following cases may be of interest to those physicians who are liable to be consulted by their patients regarding the propriety of visiting one or other of the many springs which abound in California. It not infrequently happens that too little attention is given to the fitness of individual cases to hydro-therapy, and consequently harm is done to the patient and also to the reputation of the particular spa which he chanced to select, so that others who would receive benefit are deterred by their

friend's misfortune from availing themselves of the treatment. The popular idea that the surroundings at the various resorts are responsible for all improvement, and that although the baths may fail to relieve yet they never will do any harm, is extremely unfortunate. At least two things should be impressed upon those seeking advice: (1) that hydro-therapy is not adapted to all cases, (2) that the temperature and method of administration are of much greater importance than any salts contained in the water. This knowledge would prevent many undesirable cases from going to the sanatoria, and might also bring to reason many of the guests who, in a desire to be thorough or "get their money's worth," drink too much of the water or indulge in too frequent or prolonged immersion. The cases mentioned tonight are only examples of one of the groups that require exclusion from the baths or very careful supervision during their administration; it is not always possible to tell from physical examination the condition of a man's arteries, because the peripheral vessels may be comparatively healthy while the coronaries and splanchnics are seriously diseased, and therefore in all patients after middle life the first baths should only be given in the presence of an expert medical attendant who is capable of estimating their influence upon the balance between cardiac strength and arterial resistance.

Case 1. A gentleman, aged 58, for nearly three years had been subject to radiating substernal pain that was readily induced by exertion, such as climbing seven or eight steps of a stair, especially if the exertion were undertaken soon after meals. Some time ago, while living at a summer resort where there were hot mineral springs, he commenced a series of baths, and it is only to the effect of these that I wish to call attention. The water came from the ground at a temperature of 140 Fahr., and contained a variety of salts, the most abundant being sodium carbonate, sodium bicarbonate, silica, and a trace of calcium. As I was spending part of my vacation at the same place I had an opportunity of observing him daily, and watching the effects of the baths. In addition to the water consumed before and between meals, the patient was instructed to drink eight ounces of it hot when he went into his bath, and another eight ounces as he was lying in the cooling-room afterwards. The bath consisted of complete immersion, with the exception of the head, in the mineral water that was easily kept at a temperature of between 103 and 104 Fahr. by allowing the hot water to flow in continuously; the time limit was from ten to fifteen minutes, and after the first eight minutes light friction was commenced over the entire body. Upon getting into the bath the patient found the warmth very agreeable, but when about seven minutes had elapsed, he experienced a sensation of fullness behind the sternum to which he did not attach any importance, and made no mention of the fact. The pain so increased during the rubbing that at the expiration of other three minutes the suffering was so great that he could hardly get out of the bath even with assistance, and had to sit down until sufficiently recovered before walking into the cooling-room, a feat that could only be accomplished by resting three or four times on the way. Here he lay down upon the cot, but the slight increase in pressure, consequent upon assuming the horizontal position, caused the pain to return, so that it was fully twenty minutes later before he could recline with his head and shoulders supported upon six or seven pillows. Next day the resident physician told him not to take any water before enter-

*Read before the San Francisco County Medical Society, March 7, 1916.

ing the bath, and also accompanied him and noted the pulse from the moment of immersion; otherwise the conditions were the same as formerly. At the end of eight minutes the sensation of fullness began to arrive, and simultaneously the pulse rose from 82 to 115. He was immediately removed from the bath, but the exertion of being dried and walking not more than twenty feet induced such severe pain that the patient had to sit down for several minutes before he could attempt to reach the cooling-room, where the former experience with regard to inability to maintain the horizontal position was repeated. The patient was made to understand the gravity of the condition, but he was one of those men who are more or less attracted to medicine from the fact of having several friends in the profession and having been round about hospitals both for business and charitable purposes, so that he became as much interested in his own case as the resident physician and myself, and decided to continue the baths. It would be superfluous for me to give a detailed account of each bath; they were given every day for ten days, and every other day for fourteen days; the temperature was generally 102 Fahr., and was never allowed to go above 103 F.; the total time of immersion never being allowed to exceed ten minutes. Pain was always readily induced upon the slightest effort after emerging from the bath, but not to such an extent as with the higher temperature, and a similar result obtained with diminished severity until the end of the treatment, although the maximum temperature was reduced to 101 Fahr. During the attacks the patient found that deep inspirations materially aided in diminishing their duration and intensity. The benefit is probably due to the fact that by this means there is an increase in the negative intra-thoracic pressure so that the blood from all the veins, including that of the coronary sinus, flows more freely into the right auricle, and also from the right to the left side of the heart. Naturally this both relieves strain and improves the coronary circulation.

No pressure records were made during the paroxysms, but for some time before the treatment was commenced the systolic pressure was generally between 165 and 170. At the end of four weeks the patient's condition had materially improved, although this was probably the result of observing a careful dietary, exercise, and drinking the water to promote elimination as prescribed by the resident physician.

The effect of the warm mineral baths was to me both extremely interesting and instructive, because it was my first opportunity of personally observing the onset of anginal attacks under such conditions, although I had on many occasions advised patients to avoid high temperatures, and to make their baths of as short duration as possible, rather from dread of possible syncope than from expectation of breast pain. That immersion in warm water should be followed by vascular dilatation and faintness seemed perfectly natural, but the production of angina pain was more difficult to understand.

In my wards at the San Francisco Hospital Dr. Kretsinger, at my request, made a series of observations on the effects of hot baths on blood pressure. The pressure was taken before the bath, with the patient in a reclining position, and again after total immersion of the body and limbs in water at 105 Fahr. for fifteen minutes, and the different readings compared. In five out of six cases there was a slight rise of 5 mm. to 7 mm. in systolic pressure, only one remaining unchanged. In all of them the bath was followed by a marked fall in diastolic pressure, generally to the extent of twenty-five or thirty mm. This of course means a great

increase of pulse pressure or force of the cardiac systole, also of the heart load. One case was a man over 70 years of age suffering from well-marked arterio-sclerosis, but who was not subject to anginal attacks. Before the bath his systolic pressure was 160 mm. and his diastolic 90 mm.; at the end of fifteen minutes' immersion in the hot water systolic pressure remained unchanged, but the diastolic had dropped to 70 mm., so that the pulse pressure was increased from 70 mm. to 90 mm.

If the general assumption be correct that the *normal* heart load corresponds to fifty per cent. of the *diastolic pressure*, then this patient had an overload of twenty-seven per cent. before the bath, which was increased to seventy-eight per cent. of the diastolic pressure after fifteen minutes' immersion. As baths at this temperature are associated with marked acceleration of the pulse rate it is evident that the work of the heart must have been materially increased. The case observed in my ward were few in number, but their object was to note *possible* therapeutic effects or accidents against which precautions should be taken rather than to make statistics; hence even one was sufficient to establish the necessity for observing the influence of the baths not only on the systolic pressure, but also upon the diastolic pressure, pulse pressure and heart load at the beginning of a course of hydrotherapy.

Otfried Mueller, in 1902, published his observations on "The Physiological Action of Baths." The following is a summary of his conclusions: "(1) Baths with a temperature below the indifferent zone (33-35 degrees C.; 91.4-95 F.), produce an increased blood pressure, lasting throughout the bath, with a decrease in the pulse rate. (2) Baths with the water at a temperature above the indifferent zone to approximately 40 degrees C. (104 F.), produce, after a short initial rise, a lowering of the blood pressure to or below the normal; this lowering is then followed by a second increase in the pressure; below 37 C. (98.6 F.), in this group of baths the pulse rate is lowered, above this point it is increased. (3) Baths over 40 C. (104 F.), produce an increase in pressure lasting throughout the entire bath, with an increase of the pulse rate." (Forchheimer, "Therapeutics of Internal Diseases," vol. 3, page 618.)

Briefly stated, this patient's baths were given in the following manner: The temperature of the water upon entering the bath was 102 F., and when he was completely immersed it was rapidly raised to 104 F. by the addition of water that flowed in copiously at a temperature of 145 degrees. On the first occasion he remained for fifteen minutes, but subsequently the temperature was maintained as nearly as possible at 102 F., never being permitted to rise above 103 F., and the time was shortened to ten minutes. The case would therefore fall into the second of Mueller's groups, in which there is a short initial rise of pressure succeeded by a fall, and then a second increase in the pressure accompanied by an increase in the pulse rate. This is at variance with the usual physiological experience that pulse rate is inversely as the pressure; that whenever vascular dilatation takes place there is an

acceleration of the pulse, and that when the vessels contract there is a slowing, as if it were a purposeful endeavor on the part of the heart by its own exertions to maintain an approximately constant pressure. It is impossible to say the extent to which the second rise in pressure is due to a reciprocal compensatory action between the splanchnic and peripheral circulations, because sometimes these dilate simultaneously as during digestion, at other times the one is opposed to the other, and it is perfectly possible that during a bath, where the stimulus is peripheral and does not demand any functional activity on the part of the abdominal viscera, there may be a contraction in the vessels of the splanchnic area in an endeavor to avoid the fall in pressure consequent upon dilatation of the peripheral vessels. On the other hand, as already mentioned, the augmentation of the heart's work resulting from the combination of pulse acceleration and increased heart load is sufficient to induce an anginal attack without the production of any marked rise in arterial systolic pressure. Since these are the symptoms that, according to Mueller, arise in the healthy person who is given such baths, it can be readily understood that in the arterio-sclerotic patient, particularly if the splanchnic vessels be involved, the pressure may be easily disturbed to such an extent as to strain the heart and produce the most acute suffering. In such a case as that just reported the patient should not be allowed to continue the baths in the hope that he will become habituated to them; on the contrary, either they should be discontinued or the temperature and time of immersion reduced until he is absolutely free from distress. One paroxysm predisposes to another, it does not protect against it; indeed it would seem that when once a by-path has been established in the cord through which viscerosensory impulses are diffused to the nerves of ordinary sensation, each attack makes the transmission more easy.

This second case contains a warning as probably it is an example of a hot bath producing heart overload in an arterio-sclerotic patient, from the effects of which he never recovered. Unfortunately I am not able to give you pressure data, as the patient came under observation in 1906 shortly after the San Francisco disaster, in which many of us not only lost our apparatus, but had difficulty in replacing it. This gentleman was also 58 years of age, and consulted me on account of a typical radiating anginal pain. It is not necessary for the present purpose to give a detailed account of the case, but simply to state that under treatment he recovered so far that instead of being unable to walk one block without stopping on account of pain, he could walk more than a mile without resting, gained twenty pounds in weight, made a long pleasure tour through Canada and Alaska, as well as three round trips between San Francisco and New York, without suffering any inconvenience. Subsequently he came to me from some "Springs," where he had been spending a short holiday with friends who advised him to take a hot mineral bath for the purpose of breaking up a cold; while in the bath he experienced a sudden attack of his former cardiac oppression and pain. He never afterward regained his former condition of health; but became subject to attacks of cardiac asthma, from which he died several months later.

Most hydro-therapists have agreed that the changes in pressure depend upon the temperature

of the water much more than upon any action of the salts in solution, yet there cannot be any doubt that these have some influence, although our knowledge on this point goes very little beyond the general statement that the salts, especially the chloride, by process of endosmosis, reach the upper layers of the cutis to which they attract water from the deeper tissues. This abstraction of water stimulates the terminations of the cutaneous nerves, and, reflexly, the cardiac and vaso-motor centres. There is no absorption of salts through the skin into the circulation. Much greater importance is attached to the presence of carbon dioxide. This has been worked out especially in relation to the Nauheim Baths, and Mueller has found that in the artificial Nauheim Baths, while the pressure depends more upon the temperature of the water than upon the carbon dioxide present, on the other hand, these two factors participate almost equally in the production of changes in the *pulse rate*. It must be remembered that Nauheim Baths are not in the same category as those taken by the gentlemen whose cases have been narrated; these are generally given at temperatures varying from 83° to 91° F., and consequently fall into Mueller's first group. At one time it was believed and taught that the carbon dioxide produced a prolonged dilatation of the peripheral vessels, and therefore a lowering of pressure and lightening of the heart's work. This, however, is erroneous, and it has been shown that in the cool Nauheim Bath there is a rise in pressure due to contraction of the peripheral vessels which is not compensated by the splanchnic vessels, although these dilate to a considerable extent; that the ventricular output is increased, and that there is a greater and more rapid flow of blood through the peripheral vessels producing a pink color of the skin. As the pulse rate is slowed the increased output must be due to a more complete systole diminishing the amount of residual blood usually remaining in the ventricle, for it must be remembered that normally the ventricle does not empty itself with each contraction but that, in such animals as the dog, with a pulse rate of 90, about one-third of the ventricular contents remains after each systole. The effect of the Nauheim Baths is supposed to be due to the fact that carbon dioxide, accumulated on the body surface, retards the conduction of heat from the body to the water, and thus prevents the rapid cooling that takes place in plain water. In the carbon dioxide bath the peripheral nerves receive the usual stimulation from the application of cold, but the body temperature being longer maintained the result is as if the patient had a cold and warm bath simultaneously.

It is evident that the Nauheim Bath by simultaneously contracting the peripheral vessels and increasing the cardiac output produces increased work for the heart, that the temperature and amount of carbon dioxide being capable of regulation, the amount of this work can be graduated to the heart's capabilities, and finally that the adaptability of cases to the treatment will depend on the responsive power of the myocardium, rather than on the nature of the lesion. For the same reason it may be expected that such cases of arterio-sclerosis, kidney

involvement, or high blood pressure as are deemed suitable to hydrotherapeutic measures will frequently do better in the saline baths at a temperature of 94 F. to 96 F., than in those containing carbon dioxide, and at either a higher or lower temperature.

In conclusion, may I be permitted to again emphasize the fact that warm baths may be dangerous to patients suffering from arterio-sclerosis, because the higher temperature tends to increase the heart load by causing a slight rise in the systolic pressure but a marked fall in the diastolic, which, together with the acceleration of the pulse rate may result in serious augmentation of the strain upon the heart muscle.

In giving baths, therefore, the attendant must note the diastolic as well as the systolic pressure, and figure out the heart load, and not content himself by observing that the systolic pressure is not very much increased.

Discussion.

Dr. H. D'Arcy Power: A subject like this presents so many aspects that it is very difficult to discuss it. So many factors occur in all cases of high blood pressure that it is difficult to seek out those that are responsible for the immediate condition or its secondary symptoms.

We have forms due to hypertension alone, in which arteriosclerotic changes have not yet occurred, and whose causation is to be sought in toxic or autotoxic irritation, to altered internal secretions, or possible direct cerebral stimulus. In others there is a distinct laying down of fibrous tissue that at all times occludes a certain portion of the peripheral vessels and produces conditions not so amenable to treatment.

When we consider the action of a remedy like hot water or stimulating baths, in every case it must be determined, if possible, which of these conditions is chiefly present, and act accordingly. More important, it seems to me, in all questions of high blood pressure, is not the immediate effect of certain measures, as hot baths or the use of the X-ray, but what the final result is. Let us assume that after several weeks of the bath treatment the patient has a reduced arterial pressure, we still must ask which of many factors has been responsible? He has probably been taken away from business cares and given rest. How much has that reduced the blood pressure and how much the bath? His bowels have been attended to and his kidneys kept flushed, and his diet radically changed.

I have been recently watching the use of thermal penetration in reducing blood pressure in a business man, who is away from his business worries and is on dietetic treatment. He has had a fall in his blood pressure, but I am not convinced on that account.

As to Dr. Kerr's two particular cases, they are very interesting, particularly the first case with the anginal symptoms. It occurs to me that the change in the pulse rate (85-115) may have been more responsible for the anginal attack than the change in pressure. I have experienced the presence of anginal pain when the pulse rate has reached a certain frequency, and I also know by personal experiment that deep inspirations are capable of checking the pain. Whether this is due in all cases to an alteration of intrathoracic pressure or the movement of gas in the bowel is often a question.

The whole subject is one of extreme interest. I know of nothing at the present time that is more important than the study of these high pressure cases and the factors that induce them, but it will need hundreds of just such careful studies

as Dr. Kerr has given before we shall be able to obtain clear indications for therapy. I think it is a very dangerous thing to take any step in high blood pressure which will suddenly increase the heart rate or reduce the ventricular pressure; in all such cases we have to go very slowly in using therapeutic measures.

Dr. Kerr (closing discussion): I did not mean to discuss the therapeutic value of baths in the treatment of arteriosclerosis, that would require about a book. All I wanted to do was to call attention to the danger which exists in arteriosclerotics going to mineral springs. We all know that they take these baths without supervision, and trouble is bound to occur. As I mentioned, at the beginning of the feeling of oppression the pulse rate may rise from 85 to 115—a sudden jump. Another point I wanted to emphasize is the change in systolic pressure, there may be none, or it may be slight. In those other patients in my ward the systolic pressure never increased above 5 mm., but there was a big fall in the diastolic: 30 to 35, and in one case 40. This, taken with the acceleration of the pulse, means an immense increase in the heart load. Of course in the case of the old arteriosclerotic, the overload of about 75 after the bath and greatly increased pulse made a terrific amount of work for the heart to do.

The first thing noticed is that the indiscriminate use of baths in angina is to be avoided. In the next place we must not be guided by systolic pressure—the difference in diastolic pressure and pulse rate means a great deal more.

Cases like these explain to us why in many cases of arteriosclerosis we find attacks of angina pectoris coming on with very little increase of systolic pressure. You find on examination nothing abnormal in the systolic pressure, yet the patient is suffering considerably. In those cases you will generally find a low diastolic pressure which shows that the balance has been disturbed.

Dr. Saxton Pope: I have seen several cases of angina made worse by hot baths. I know of a gentleman having had angina pains lasting only two or three weeks. The blood pressure was 175, and he was addicted to hot baths. After taking a very hot bath one night—the temperature was probably 110—he went to bed with slight pain in the precordium. The next day he was found dead in bed, with his light going and his spectacles on his nose. The autopsy showed coronary thrombosis.

IMPORTANT

LOOK OVER

THE ADVERTISING PAGES

IN

YOUR STATE JOURNAL

BEFORE MAKING

A PURCHASE ELSEWHERE

PATRONIZE THOSE

WHO PATRONIZE YOUR

JOURNAL

TUBERCULIN THERAPY: ITS PRINCIPLES, LIMITATIONS AND INDICATIONS.*

By WALTER C. KLOTZ, M. D., Los Angeles.

In the absence of a real cure for tuberculosis tuberculin therapy remains an important adjuvant to the long and expensive general hygienic treatment. It is only natural and at the same time justifiable that anything that may be of even the slightest help to the patient should be employed, provided no harm is done. While at the present time there is little probability of tuberculin being used as recklessly and in as large doses as during the period shortly following Koch's original communication,—a period referred to by Brown aptly as the "tuberculin terror," the fact remains that, in an endeavor to help, the general and indiscriminate use of tuberculin can and actually does do harm in some cases. It would seem timely, therefore, to point out briefly some of its limitations and dangers.

If the various hypotheses as to the action of tuberculin be left out of consideration and the actual pathologic changes constituting the tuberculin reaction be kept in view constantly, these dangers will be avoided more readily while the indications and contra-indications for its therapeutic use would appear perfectly obvious.

We are still in doubt as to the nature of tuberculin sensitiveness. We do not know what biological mechanism brings it about. That it is an anaphylactic phenomenon seems fairly certain. On the other hand it appears more complex than the sensitiveness usually induced by the injection of a foreign proteid. True tuberculin sensitiveness has not been produced in non-tuberculous organisms by previous treatment with tuberculin. It is true that Baldwin (1), Krause (2), Lewis (3) and Austrian (4), among others, were able to induce anaphylactic shock by means of large doses of tuberculin in non-tuberculous animals by previously treating them with products of tubercle bacilli. But the anaphylactic sensitiveness produced in such animals lacked some of the essential characteristics of true tuberculin reactivity. As Baldwin has pointed out (5), the actual formation of tubercle tissue and tubercle cells seems necessary in order to bring about a condition of allergy or reactivity to products of tubercle bacilli. In fact, from what we now know in regard to tuberculosis, the changes in the tissue cells at the site of the tuberculous lesions apparently constitute the essential features of all tuberculous processes.

When we set out to gather the few facts we know about tuberculin and its effects, we find as Lewis (6) has put it recently in a very clear analysis of the subject, that "relatively very little that is essential has been added to the fundamental facts of the pathology of the tuberculin reaction, which formed the justification for the therapeutic use of tuberculin." In other words, our knowledge of tuberculin on a strictly pathological basis has not advanced beyond that obtained from Koch's original classical experiments. All further know-

ledge in regard to tuberculin rests upon clinical, if not empirical, observations.

The essential effect of tuberculin is the focal reaction or the inflammatory changes that take place in and about all existing tuberculous foci, whether they are located in the lungs, the skin or other organs. These inflammatory changes consist in congestion or, if severe enough, necrosis and softening. It is important to bear in mind constantly that this focal or organ reaction is the real reaction; this much is based upon established anatomic facts. All other phenomena associated with the reaction; local and general symptoms, as well as changes in the objective physical signs, are merely the result of the central focal reaction with chemical cellular changes.

If the tuberculous lesion is located in the lungs a given dose of tuberculin administered subcutaneously will cause increased congestion about the disease focus. If the dose be large enough there may be necrosis and softening with possible extension of the process, either through adjacent tissues or even by rupture into blood vessels, these changes being analogous to the pathologic changes occurring in the course of the disease as a result of the tuberculo-protein derived from the tubercle bacilli. The changes accompanying focal reaction may be detected by alterations in the physical signs: increased dullness, voice and breath changes and an increase in rales; in other words, signs of increased moisture. Coincident with changes in physical signs there may be an increase of local symptoms: cough, expectoration, streaked sputum or pleurisy. The cellular changes constituting the focal reaction may also bring about an increase in general symptoms: rise of temperature, increased pulse rate, headache, malaise, pains in the body and extremities, loss of appetite and digestive disturbances. Occasionally, however, such general symptoms may remain absent. In other words, focal reaction with congestion may occur, but no rise of temperature and no subjective symptoms are noted, just as clinically, softening and cavity formation may take place without general symptoms of toxemia. It is this very feature that makes tuberculosis as a disease so insidious and calls for such caution in the use of tuberculin.

The above applies to a single, not minimal, dose of tuberculin. If beginning with small doses the injections are repeated at intervals, with gradually increasing doses, a tolerance to tuberculin is established so that in time even very large doses no longer cause a reaction. This tuberculin tolerance is not strictly an immunity in the biologic sense since so far as can be determined no antibodies to tuberculin are formed.

In what way this tolerance is established we do not know. Like tuberculin reactivity it must depend necessarily upon changes in the cells at the site of the lesion and of the body cells in general, so that they no longer react to the given dose of tuberculin:—*focal tolerance*. This tolerance exists normally in the non-tuberculous individual because there are no tubercle cells present that are capable of bringing about an allergic condition. The probable effect of focal tuberculin tolerance, therefore, is to put the individual in a similar condition in

* Read before a meeting of the Southern California Medical Society, held at Los Angeles, December 2, 1915.

which he reacts, so far as clinical symptoms are concerned, as if there were no anatomic lesions present. The lesions themselves, however, may continue to exist, or even to progress, as tuberculin tolerance does not confer immunity against tubercle bacilli or prevent their invasion into the tissues either from within or without the body.

On the other hand, the subsidence of toxic symptoms in some cases, as tuberculin tolerance becomes increased, would seem to indicate that a tolerance is established also for the tuberculo-proteins produced at the site of the lesion from the living tubercle bacilli. If this were true it is conceivable that the cells of the body are enabled to take care of the tubercle bacilli, just as they take care of saprophytes, or of diphtheria bacilli after the diphtheria toxins have been neutralized by the antitoxin. Furthermore, the cells and the organism as a whole being less burdened with part of the products of the tubercle bacillus, can attain a normal condition and acquire increased resistance, so as to put up a more effectual fight against the infection itself.

The principal object of tuberculin therapy being to establish focal tuberculin tolerance and to avoid appreciable focal reaction and its harmful effects, the indications and contra-indications for tuberculin therapy must be based upon an estimation of the degree of reactivity of the tissues' cells. In this respect every case is a law unto itself and must be judged upon its own merits. It is impossible to formulate the indications and contra-indications according to any fixed scheme. The individual case must be studied carefully, before making a decision, and the symptoms, physical signs and clinical history carefully considered, aided by a clinical sixth sense that can come only through long experience and observation.

The extent and intensity of the lesion are not necessarily an indication, as slight, early lesions may bring about more severe reactions than older more extensive lesions, even those with cavity formation. This applies especially to chronic, fibrous or encapsulated foci. In cases with recent extension and in those with evident softening;—the result of intense tuberculo-protein action, it must be irrational to give tuberculin and thereby increase the focal toxemia. For even though the toxins liberated from the living tubercle bacilli at the site of the lesion may not be identical with those of the tuberculin, they must include those of tuberculin, no matter what others may be produced in addition. It must be irrational for the same reason to give tuberculin in cases with marked toxemia,—high or fairly high elevation of temperature and severe constitutional symptoms.

On pathologic grounds tuberculin is contra-indicated also in cases with recent or existing hemoptysis on account of the danger of increasing necrosis and ulceration.

On clinical grounds it would seem that a moderate or mild persistent temperature is not in itself necessarily a contra-indication to tuberculin, and in some such cases this symptom has been seen to subside following the use of tuberculin,—possibly because a focal tolerance for some of the tuberculo-toxins has helped the natural resistive forces of the

body to overcome the others, in the manner I have endeavored to explain above. In giving tuberculin to such cases, however, it is important that they be kept under careful observation and that the dosage be controlled cautiously.

The ideal cases for tuberculin are those without toxemia, in good general condition, without constitutional symptoms and in which the signs would indicate that the lesions have remained stationary for some time. These are the cases also in which the stimulation of the tissue cells through mild focal congestion may hasten encapsulation and healing, besides establishing tuberculin tolerance.

In the administration of tuberculin it must be considered axiomatic that there can be no absolute dosage. The effect of any bacterial toxin depends upon the resistance or tolerance of the individual. Even with standardized preparations the initial dose, the rate of increase and the highest dose must be measured to the individual case. The initial dose should be made small enough to exclude all possibility of clinical reaction. In determining this, we must be guided again by the clinical picture. The various biologic tests do not offer a safe guide and are of help only in corroborating clinical signs. The quantitative cutaneous test first suggested and applied for this purpose by White (7) will point out hypersensitiveness of the skin to tuberculin and is at least a safe guide in indicating when the initial dose should be smaller than usual, even though this index of cutaneous sensitiveness does not necessarily bear a direct relation to the degree of focal reactivity. The process of repair and healing in tuberculosis is essentially a localized one, concerning chiefly the fixed tissue cells at the site of the lesion. Immunity in tuberculosis is cellular rather than humoral. It has been known for a long time that certain specific amboceptors existed in the blood of tuberculous subjects,—such substances as precipitins, agglutinins, opsonins, and substances binding complement in the presence of tuberculous antigens. Each one has been studied carefully with a view to determining its relation to the course of the disease, but the results of all this work have been most variable and contradictory,—simply interesting, but of little clinical significance. The serologic tests are therefore not to be depended upon as guides in determining dosage of tuberculin.

The interval of dosage should be made long enough to allow any delayed reaction to develop and subside before giving the next dose. In order to detect possible focal reactions physical examinations should be made frequently about twenty-four hours after the injection when any resulting hyperaemia would have reached its height. This is usually practicable only in institutions. In the case of ambulatory patients, in dispensary or private practice it should be done as frequently as possible. Careful auscultation of known existing tuberculous areas would be sufficient in most cases. A careful control of subjective symptoms, as well as of the temperature curve, will usually indicate existing reaction in the clinical sense. At the same time distinct focal reaction has occurred with even minimal doses of tuberculin and without any rise of temperature. There are cases in which the

nerve centres are evidently not irritable to the tuberculous toxins and in which extensive softening may take place without being detected if reliance is placed solely upon the temperature curve and general symptoms.

The highest or maximum dose should be the largest dose that the given individual can tolerate without causing clinical manifestations and without regard to any fixed arbitrary maximum dose. Some authors recommend as high as one thousand milligrammes and this dose can be reached safely by many individuals. Others again cannot take more than one or ten milligrammes, while some reach the limit of tolerance at even .001 or .0001 milligrammes. Throughout the whole course of tuberculin treatment individualization of dosage must be the essential feature. The greatest error and the greatest source of danger lies in giving a fixed initial dose in every case, following a regular scale of increase until an arbitrary maximum dose has been reached, with an idea that the sooner the patient may be made to finish the course, the sooner will the desired benefit be received,—that is, a desired tuberculin tolerance established.

It is hardly necessary to enter here into a description of technic as to administration or making dilutions. It might be in place, however, to warn against the use of stock serial dilutions. These may have been in stock for variable periods of time and undergone deterioration. If then the next higher dilution is of more recent stock and a fresher preparation, it may possess relatively higher potency than the one previously used and the patient receive a greater increase in dosage than intended. Different dilutions may also have been prepared from different stock solutions, varying only slightly as to strength, but this slight difference may become relatively much greater, according to the dilution.

While innumerable preparations of tuberculin have been devised by different workers from time to time, there is an absence of all proof that they possess any advantage whatever over the older forms of tuberculin of Koch:—Old Tuberculin (O. T.) and the New Tuberculin, Bacillen Emulsion (B. E.) or the Buillion Filtrate of Denys (B. F.) also made according to an open formula like the preparations of Koch. By combining these standard preparations all the substances of the bacillary bodies and of the cultural fluids may be made use of.

Different preparations vary only as to the relative amounts of tuberculin they contain. Some preparations only appear milder in their effects because larger doses must be given in order to obtain the same amount of tuberculin. Some of them have undoubtedly been exploited for commercial purposes as would be indicated by the exorbitant prices at which they are marketed. As the Germans say: "Tuberculin is Tuberculin" and any desired effects it can have must come necessarily through the focal reaction and consequent focal tolerance. This, as we have seen, is the only action that tuberculin can produce, and tuberculin is the only substance that can produce it. Hence, if any preparation contains tuberculin at all, it will produce this effect only, and conversely any substance causing focal reaction is necessarily

tuberculin or must contain tuberculin, regardless of under what name it may be exploited. If no reaction at all is produced there can be no therapeutic effect. The aim in tuberculin therapy is to produce the least degree of reaction beyond no reaction at all, but not sufficient reaction to make it clinically manifest, and the distinction between minimal "*anatomical cellular reaction*" and a so-called "*clinical reaction*" must be kept in mind.

SUMMARY.

To summarize, in selected cases tuberculin is of help in producing tolerance to tuberculous toxins and in this way we may increase the resistance of the individual and afford a certain amount of protection in the course of subsequent exacerbations or recurrences. This protection, is, however, limited necessarily, because tuberculin tolerance only protects against a part of the tuberculo-proteins and not against all the toxins which are liberated from or by the tubercle bacilli in the course of the disease. If this latter were only true, tuberculin would be much more efficacious as a weapon against tuberculosis. On the other hand, if some of the tuberculo-proteins liberated from the living tubercle bacilli were not identical with those liberated from tuberculin in the course of the focal reaction, tuberculin would be of no value at all, as focal tuberculin tolerance would not protect the body against anything it was in danger of.

Finally let me repeat that tuberculin cannot and does not confer immunity against infection with tubercle bacilli either as preventive measure or in the course of disease. In fact, according to Austrian's experimental work (8), animals previously treated with tuberculin were more susceptible to subsequent inoculations with living tubercle bacilli than were untreated control animals. In order to draw conclusions as to results obtained from tuberculin therapy it is not safe to accept figures from tabulated statistics, even though the cases treated with tuberculin and the untreated controls may have been selected and observed under similar conditions. Here again the only safe guide is a careful clinical study of individual cases.

CONCLUSIONS:

1. On a pathological basis our knowledge of tuberculin is limited to the phenomenon of the focal reaction, which is the essential feature of the tuberculin reaction.
2. The basis for indications and contraindications for tuberculin therapy is an estimation of the degree of reactivity of the tissues at the site of tuberculous lesions. This can be determined only by a careful clinical study of each case.
3. The principal object of tuberculin therapy is to establish tuberculin tolerance. Tuberculin tolerance is not permanent and the protection offered by it is limited.
4. The various biologic tests are too variable to serve as safe guides for dosage in tuberculin therapy.
5. The dosage in tuberculin therapy is not and cannot be absolute, but must be determined for each individual case, according to the clinical picture.

6. Different preparations of tuberculin differ only as to their tuberculin content.

References to Literature.

1. Baldwin, E. R.—*Journ. Med. Research*, 1910, XXII, p. 189.
2. Krause, A. K.—*Journ. Med. Research*, 1911, XXIV, p. 361.
3. Lewis, P. A.—*Archives, Clin. Med.*, 1909, IV, p. 528.
4. Austrian, C. R.—*Bullet. Johns Hopkins Hosp.*, 1913, XXIV, p. 141.
5. Baldwin, E. R.—*Seventh Ann. Trans. Nat. Assoc. St. Prev. Tub.*, 1911, p. 351.
6. Lewis, P. A.—*Seventh Report, Phipps Inst. Tub., Phila.*, 1913, Appendix.
7. White, W. C.—*Eighth Ann. Trans. Nat. Assoc. St. & Prev. Tub.*, 1912, p. 333.
8. Austrian, C. R.—*Bullet. John Hopkins Hosp.*, 1913, XXIV, p. 11.

SIMPLE TREATMENT OF FRACTURE OF INFERIOR MAXILLA.*

By EDMUND BUTLER, M. D., San Francisco.

A few general remarks before taking up the treatment.

Fractures of the inferior maxilla make up about four per cent. of all fractures. The nasal bones are the most frequently fractured bones of the face, and fracture of the maxilla is next in frequency. It occurs more often in adult males between the ages of twenty and forty years. More often single, increases in frequency from the condyles forward, the usual location being in the region of the cuspid teeth and mental foraminae.

Etiology. Fracture usually results from direct violence, and that violence is most often a blow from a fist.

This fracture is practically always compounded. The location and direction are determined by direction and force of blow, structure of bone, condition of teeth, position of jaw, muscular relaxation, and presence or absence of something between the teeth.

Symptoms are the same as in other fractures, plus difficult swallowing, drooling, and interference with phonation.

Diagnosis as a rule is made by the patient before consulting a physician. The entire bone, excepting condyles and coronoid processes, is palpable, hence ease of diagnosis by inspection and palpation; nevertheless, radiographs should always be taken.

The prognosis is favorable, nonunion and serious complications being infrequent if treatment is appropriate.

The treatment of this fracture by the medical profession has never been satisfactory. The multiplicity of splints and immobilizing apparatus suggests the unreliability of any one method.

Treatment by external dressings only, such as the four-tailed bandage, modified Barton bandage, or old H cardboard splint, is inadequate because of impossibility of maintaining accurate reduction for any length of time.

Treatment by special splints combining external apparatus with intra-oral apparatus, such as Matas and Kingsley splints, is faulty, as apposition and immobilization are very difficult to maintain and the comfort of the patient is a minus quantity.

The ability to chew soft foods which is claimed for these splints when they are properly applied, does not exist; the patient drools continuously and swallows with difficulty.

The intradental splints and cap splints are ideal, but their proper application can only be had by cooperation with the dentist. The cap splint gives better satisfaction than the intradental, because of the ease of cleansing and ability to open the mouth.

Wiring the teeth of the inferior maxilla together on either side of the fracture causes the teeth to loosen. The Hammond wire splint with its buccal and lingual arms is difficult to apply, the teeth loosen as a result of inability to distribute the tension, and therefore the function of the splint is defeated.

Any open procedures—wiring, plating or stapling—cannot be too strenuously condemned. Occasionally a fragment of bone preventing reduction may have to be removed or its position changed, and sometimes sequestra have to be removed. In edentulous jaws the fracture sometimes has to be wired, but this is exceptional. Open procedures increase the chances of necrosis and infection, the incision often interferes with the distribution of the facial nerve, and frequently the ultimate result is poor. An unsightly scar and a deformity due to excessive callus and loss of bone often persist.

The simple wiring of teeth of the inferior maxilla to corresponding teeth of the superior maxilla is a practical, efficient procedure which is easy of application and requires no special instruments or training. It is suitable in practically all cases where the teeth are present.

Anesthesia is not as a rule required. External dressings are unnecessary. Any pliable tenacious wire of appropriate size may be used (iron, copper, bronze or silver). Angle's bands are often used by dentists, but are not as easily applied as wire. The corresponding teeth of three corresponding positions at least should be included.

The care of the mouth, as in all injuries to this region, must be thorough. Frequent irrigations with some such solution as dilute Dobell's, boric acid or peroxide, should be given. The buccal surfaces of the teeth must be brushed or cleansed with gauze.

Diet should consist of milk and egg, crushed fruits, purée of vegetables and scraped meats, introduced through a tube passed posterior to the posterior molars.

The wires should be left in place ten to fifteen days, then support by an external bandage for a short time after the wires are removed.

The danger from vomiting is inconsiderable if the stomach is empty when wires are applied, if anesthesia is used.

This method is used by dentists almost universally, but by very few physicians. Dental textbooks describe the wiring in detail and advocate its use. Medical textbooks as a rule mention the procedure.

In conclusion, this method has in its favor:

* Read before the Cooper Clinical Society.

First—It is suitable to almost all fractures in all locations and is very easy of application.

Second—Perfect occlusion of the teeth is insured.

Third—Absolute rest of the injured parts tends to decrease the chances of infection and necrosis.

Fourth—The period of disability is shortened.

Fifth—The nutrition of the patient need not suffer, if proper instructions are given as to preparation of food.

Sixth—The comfort of the patient is obvious.

Seventh—Cases of fracture of the inferior maxilla cease to be a constant worry to the physician.

FRACTURE OF THE BASE OF SKULL; PRESENTATION OF PATIENT.*

By PAUL R. WALTERS, M. D., Dinuba.

I am presenting to-night a paper on "Fracture of the Base of the Skull." It is a report of a case which occurred in my practice nearly two years ago. It presents many interesting facts, chief of which is the severity of the case, with the recovery of the patient. To the neurologist it probably would be more interesting because of the various nerve conditions which developed from the injury. The history previous to the accident is as follows:

The boy was about five and one-half years of age; he was well; had had the usual diseases of childhood, however, from which he made a full recovery. On Sunday, June 14, 1914, Mr. B., his wife and two children, with several friends, started for the mountains for a day's outing. Mr. B. was driving his car, with his wife seated beside him in the front, and the two children sitting on the rear seat. They missed the regular road at Eshom Valley and got on a side road at about one mile from the Osborne ranch. There was a sharp turn in the road; just before arriving at this turn, the steering gear of the car struck a protruding rock in the middle of the road which locked it. Mr. B., not knowing that his steering gear was broken, did not apply his brakes, but continued forward. Realizing that the car was about to plunge over the cliff, Mrs. B. screamed and jumped out. The car continued over the cliff, carrying the other three occupants with it. The fall was a straight drop of between forty and fifty feet. In the fall the car tipped and the three fell direct to the creek bottom, the car clearing them as it fell, landing upon its side in the water. The screams of Mrs. B. brought back to the site of the accident, their friends who had preceded them. When they arrived Mr. B. and the little girl had gotten up, dazed and bewildered. The little boy remained upon his back, bleeding from the mouth and nose.

One of their friends, Mr. F., seeing the child not breathing, thought he was dead, and taking some water from the creek, threw it in his face and began the performance of artificial respiration. In a few moments they said the child began to breathe and gasp for breath. They carried the child about a mile to the Osborne ranch, and telephoned to Dinuba for help. The accident occurred about 9:30 o'clock in the morning. I received the message of the accident about 10:30 but was delayed about one-half hour in getting emergency dressings ready, as I was told there were several people killed and injured. I arrived at the Osborne ranch about 12:30, just three hours after the accident occurred and one and one-half hours after being called, and found the child as follows:

The child was unconscious, with anxious parents and friends looking on. There was a small amount

of blood flowing from the nose and mouth, some clotted blood around the orifices. He was vomiting small clots of blood.

Head: There was a small swelling and a bruise upon the position of the posterior fontanelle; no depressions and no evidence of fracture of the vault. There were no other wounds or fractures upon the head.

Nose: There was no fracture of the bones of the nose or the cartilages, but there was a small amount of blood coming from the nostrils.

Mouth: The roof was injected, ecchymotic, and there were lacerations at the mucous membrane just anterior to the uvula. The uvula was swollen and injected with blood clots adherent. The jaw bones were normal. There were no fractures. No teeth were loose or knocked out. The tongue was swollen and discolored. The eyes were normal. They reacted to light. The conjunctiva were clear in both eyes.

I could not see the drum head in either ear owing to inefficient facilities. However, there was evidence of rupture, as both drum heads were bleeding. I was unable to discover spinal fluid; this may, however, have come out before my arrival.

Neck: The neck seemed to be normal; there were no bruises or discolorations. The vertebrae were not fractured or dislocated.

There were no bruises or lacerations on the chest; no fractures or dislocations of the ribs or vertebrae, as far as I could ascertain.

The heart was in a normal position beating about sixty-five to the minute and very forcibly. There were no valvular murmurs. The pulse, 65, full, strong and regular.

Lungs: There were crepitant and sub-crepitant rales scattered throughout both lungs. This I think was due to inspired hemorrhage; and respirations were of the Cheyne-Stokes variety and very bad. The temperature was 97.5° F.

Abdomen: There were no fractures or lacerations and as far as I could discover no injuries of the internal organs. There were no ruptures of the bladder and the urine was voided involuntarily, and did not contain blood.

Legs and thighs: There were no injuries or bruises and no fractures.

Arms and hands were normal.

The skin of the boy was relaxed, somewhat clammy and cyanotic. The reflexes were somewhat minus but still present and they were about the same on both sides.

My diagnosis at this time was fracture of the base of the skull. I was unable to determine which of the fossae was involved and my prognosis was bad.

I decided that it was impossible to move the child and as there was no medical aid nearer than Dinuba, a distance of thirty-five miles, I decided to remain for a short time with the patient, and immediately sent to Dinuba for ice, drugs and instruments. On the afternoon of the same day, the child reacted from the shock and the symptoms of concussion began to subside to be replaced by symptoms of pressure and fracture. The pulse came up to between 80 and 90 and finally on that same day to 100. The temperature rose to 103°; respirations became worse and of the C.-S. variety. The skin became more cyanotic and muscles of the left eyeball were paralyzed and the pupil dilated. The conjunctivae became red and injected. The left side of the body was paralyzed. About 8 o'clock in the evening, the messenger which had been sent to Dinuba, returned and we immediately placed ice about the child's head, stimulated with atropine and caffeine.

On June 15, the next day, the child seemed somewhat better and stimulants were administered; whiskey by the mouth, as he could swallow and nutrient enemas.

On June 16th, the second day after the accident,

* Read before the Tulare County Medical Society, February, 1916.

about 3 o'clock in the morning, the child became quite cyanotic; the C.-S. breathing returned and became quite marked. The pulse ran up to 170, they were quite feeble and things looked very bad. I gave atropine and caffeine, external heat, with very little results. The child looked like he was dying, so I gave intravenously, eight ounces of normal salt solution. Within a very few minutes the cyanosis entirely cleared up, the C.-S. respiration was replaced by a regular respiration which was very fast and shallow. The pulse became stronger and slower. The change that took place was noticed by several mountaineer people who were present and it was quite remarkable. On this day Battle sign appeared, which as we know, is a bluish discoloration over the mastoid process on the left side, which was indicative of a fracture in the posterior fossa. The child had a good day. The bowels moved. The stools were liquid, which I think was due to the fact that we were feeding some by the rectum. The urine was voided involuntarily about every eight or ten hours. The child was able to swallow liquids if fed slowly. The child was still unconscious.

June 17th—This day was about the same as the day previous.

June 18th—At 2 o'clock in the morning the pulse went up to 160 and respirations again began of the C.-S. variety; cyanosis again became marked and the child vomited. His condition began to look bad again, and this time I immediately used a normal salt solution intravenously. About six ounces were injected into the median basilic vein of the right arm. The results after the normal salt injection at this time were just as remarkable as on the 16th.

June 19 and 20 were two good days. The respirations were regular, at times running between 18 and 30. The pulse ran between 90 and 120. The bowels moved and the urine was voided. The child was still unconscious. They fed liquid food and he received his whisky and very little drug stimulation. The left side was still paralyzed. At this time the eyes began to roll about, not simultaneously but separately. The muscles of the left eyeball being partially paralyzed with only the external rectus and inferior oblique giving motion.

June 21—About 2 o'clock in the morning the pulse got up again to 150, weak; the respirations again began of the C.-S. variety and cyanosis again occurred but not quite as bad as in the previous attack. This time I gave normal salt solution subcutaneously, with very good results. On this day we had retention of the urine. The bladder failed to expel its contents and we had to resort to the use of the catheter. The child was somewhat constipated also, and we used high enemas.

June 22, 23, 24 and 25 were good days. The pulse ran between 80 and 110. The temperature between 100° and 101°. One important fact that I have failed to mention is that dicrotism and cardiac arrhythmia appeared at my first examination and continued throughout the case, until the boy was well able to get about, which was in the neighborhood of about four and one-half months. This was a most annoying symptom to me.

On June 26 another spell of cyanosis and the C.-S. breathing returned and this time normal salt solution was given, subcutaneously, with very good results. This I think was the last time I used the normal salt solution.

On June 27 the urine was voided without the use of the catheter for the first time since the 21st of June, a period of six days.

From June 28 to July 3, the boy began to improve; the pulse ran from 75 to 80, it was still irregular as mentioned before, but not as marked; the respirations ran from 18 to 30 with more regularity but not as deep as normal. The temperature ran from 98 2/5 to 100. The paralysis

was still present and unconsciousness remained. The child on this day was removed from the mountains to his home in Dinuba. He was transported upon a willow bough bed, arranged in the back of a large touring car, well padded and slung on straps. All the way down, the nurse held his shoulders while I held the head to prevent undue weight upon the base of the skull. The arrival home caused no change in the symptoms whatever.

From July 3 to July 10 the pulse came down to about the normal rate, still somewhat irregular. The temperature was practically normal. The paralysis still remained and the child was still unconscious. This unconsciousness remained until the seventh week after the accident, at which time the child began to mutter. He was unable to talk intelligently until about three months after the accident. At the fourth month after the accident he was able to stand upon his feet. At four and one-half months from the time of the accident he began to walk gradually. He would stumble and fall, but tried hard and finally was able to walk.

Rhomberg sign was present which I tested for at this time, and this sign remained present up to a few months ago. Before the accident, the child was right-handed, since the accident he is left-handed.

Nine months after the accident occurred the child suffered from a double suppurative otitis media, since which time he has been somewhat deaf in the right ear.

His present condition: His heart and lungs are normal, his weight is about normal for the child of his age, he walks fairly well, a little uncertainty in his step; his grip is practically the same in both hands. The pupils react to light and accommodation. Rhomberg sign practically negative. There is some deafness in the right ear. There is a facial paralysis of the left side. The mental condition of the child is normal. He is not bad tempered, sleeps and eats well, and goes to school.

My treatment of the child consisted in absolute quiet; ice continually about the head; nourishing food in liquid enemas and in liquid form by the mouth; whisky to help keep up strength, and occasionally atropine and caffeine, hypodermically. Open air treatment.

He was carried out during the day in the open air where he remained until darkness came. This I think helped to obtain pure air for his respiratory apparatus. Owing to the inaccessibility to laboratory, etc., I was unable to make analysis of the spinal fluid, blood and other secretions.

My final diagnosis in this case was a fracture of the posterior fossa, middle fossa and possibly of the anterior fossa. My reasons are as follows:

On the second or third day after the accident, Battle sign appeared, which is almost pathognomic of the fracture of the posterior third. Facial paralysis was indicative of pressure in the stylo mastoid foramen through which the seventh nerve emerges from the skull. My reason for thinking a fracture existed in the anterior fossa was the paralysis of all the muscles of the left orbit excepting the external rectus and the inferior oblique, a fracture in the anterior fossa pressing upon nerves which innervate these muscles, would certainly give these symptoms.

I might mention the beneficial results following the administration of normal salt solution; the full restoration of the paralyzed muscles; the peculiar condition of change from the use of the right hand before the accident to the left hand after the accident, and the restoration of the mental condition to normal.

My treatment in this case was absolutely conservative, there was nothing radical done.

I now present my little patient for your examination.

ROENTGEN TREATMENT OF GOITRE.*

By HOWARD E. RUGGLES, M. D., San Francisco.
From the Diagnostic Section of St. Luke's Clinical Club.

Until we know more about the primary causes of goitre and have a working classification based on etiology, treatment must necessarily be more or less empirical and correspondingly unsatisfactory. Under present conditions it is not surprising that all treatments fail to secure the desired results in 10% to 20% of the cases. Rational treatment demands the removal of the cause and with our present information we cannot say whether the cause lies in stimuli from the central nervous system as Crile believes; or in a disturbed balance in the endocrine system due perhaps to an infectious process such as T. B.; to a developmental defect such as hyperplastic thymus or to a hypo- or hyperfunction of one of the other members of the chain.

Probably the best classification we have at present is that of the Mayos based on the pathology of their operative material.

The objection to it is that it necessarily cannot include the pathology of the other glands of the system which is at least as important as that of the thyroids themselves. However, by means of it the pathologists and clinicians have been able to correlate their findings in 80% of their cases.

Their scheme is very simple, they have two divisions, toxic and atoxic and these are each subdivided into hyperplastic and non-hyperplastic. Of these the most important are the non-hyperplastic atoxic, or simple goitres, which comprise 43.9% of all the cases. They are characterized by atrophic parenchyma, decreased function and a chronic course. Twenty-four per cent. of these degenerate into the second type, the non-hyperplastic toxic, which compose 13.3% of the cases, and with these the goitre appears on an average at the age of 22, and becomes toxic at the age of 36½ years. In these cases exophthalmos is rare.

Third, hyperplastic atoxic, which was represented in only .3% of the cases is of little importance. Most important of all is the hyperplastic toxic, or the exophthalmic type, which made up 42.5% of the cases. In these the goitre appeared at the age of 32, and toxic symptoms at 32.9 years. The curve of toxicity reaches its height toward the end of the first year and the process subsides in from two to four years, leaving traces in the way of damaged hearts, blood vessels and nerve tissues.

There are many other classifications, viz., exophthalmic, formes frustes, thymic, vagotonic, sympathicotonic, etc., but the Mayo scheme is probably the best.

Surgeons will not agree that toxic goitres should be treated medically when they have statistics proving 70% to 80% of cures as compared with 20% to 50% of cures by medical means, but as Roentgen rays come into more general use in these cases and similar statistics can be compiled by the Roentgenologists it will probably be found that their figures will not be far below those of the surgeon, while their mortality will be considerably lower.

The pathology of the exophthalmic type is essentially a primary parenchymatous hypertrophy

and hyperplasia; an increased amount of functioning parenchyma associated with increased absorption, frequently associated with hyperplasia of the thymus, especially in the fatal cases. Here, if ever, we have a condition peculiarly suited to Roentgen therapy—glandular tissues and especially vascular actively functioning ones are particularly susceptible to radio-activity and the thymus is violently so. We have an agent which can accomplish all that surgery can do—not all at one blow it is true, but gradually and none the less surely.

It will be objected that during the time necessary for treatment, toxic material is still being circulated and continuing the remote damage to heart, vessels and nerves. Time alone will show whether the objection is sound. It would seem as though the rapid improvement which occurs objectively in rayed patients, at times almost magically, would indicate an immediate diminution in the toxemia. They sleep better, feel better,—tremor and tachycardia diminish, they are not as nervous as before and they soon begin to put on weight.

It is further objected that radiation causes fibrosis so that subsequent operation is made more difficult. On the contrary, thickening of capsule and obliterative endarteritis should make it easier.

Just as sudden shock will at times start up an exophthalmos in a patient who was previously taking care of an excess of thyroid; so often a course of radiation will be all that is necessary to bring about the reverse process and carry him back over the critical point so that he is again able to neutralize his hyper secretion.

The literature shows a large number of reports of small series of cases treated with the rays with no attempt to classify the cases according to type and here is a point that hinders the Roentgenologist considerably in his study of this field—he has time for little more than a cursory history of the patient so that he must depend on the clinician who refers the case for the proper classification and study of the subsequent course of the patient. It means that the two men must work in closer touch.

Last year G. Schwartz, of the first medical clinic in Vienna, reported 40 cases in which after radiation the nervous symptoms always disappeared and the tachycardia nearly always. Two-thirds of his patients showed gain in weight, one-half regression of exophthalmos and one-third diminution in tumor.

Falta in his book on internal secretions says that he has seen several good results from radiation lately with disappearance of glycosuria, diarrhea and tremor and increase in weight.

Stoney reports 41 cases, 14 cured, 22 much improved.

Fisher reports 12 cases, seven as cured for two years, and five improved.

Case says that the response to treatment depends on rapidity of development of goitre,—the shorter its duration the better the result.

Kienböck, last spring in an article calling attention to the possibility of early hyper-reaction to ordinary dosage of rays and advocating moderate dosage until the patient has, in a measure, been standardized, concludes with the following quotation from Belot:

* Read before the San Francisco County Medical Society, November 16, 1915.

"The X-rays give results in Basedow's disease equal to any treatment, even surgery itself. In the severe cases, the rays bring improvement and even a cure—one causes almost a true resurrection."

And this from Nagelschmidt: "No case of Basedow's should be operated on unless it has had energetic treatment with the rays first. Even when the indication for operation is clear—at the very worst the patient is put in better general condition by the rays. There is no doubt that the mortality of surgical treatment will be greatly reduced by previous Roentgenization."

The technic consists of an exposure of from a quarter to a third of an erythema dose, of hard rays through a 3 m.m. aluminum filter. If no reaction occurs the dose is cautiously increased until regression of symptoms occurs. Some patients at fairly heavy doses will develop sympathetic symptoms of nausea, malaise, temperature for three to four days followed by improvement immediately or during the next week. The improvement lasts 10 days to two weeks and then treatment is repeated. Each time they gain a little more and the beneficial results seem to continue for some time after treatment is stopped. Patients should not be accepted for a course of less than three months—at times a year will be necessary to secure results.

In the past year and a half we have had 24 cases, 10 pursued treatment for from three months to 11 months. Without exception they are improved as regards nervousness, sweating, tremor, sleeplessness, and weight.

One still complains of tachycardia at times.

Three showed great improvement in exophthalmos. At any rate the results are sufficiently encouraging to warrant wider application of the method and more careful study of the cases.

Bibliography.

- Kienböck—Fort. a. d. geb. d. Roentgenstrahlen, 1915, vol. 22, p. 501.
 Belot—Strahlen therapie, 1913, p. 561.
 Birdsall—N. Y. Med. Journ., 1914, p. 1032.
 Leonard Williams—Practitioner, London, 1915, p. 94.
 Barker, Halsted and Waters—Johns Hopkins Hospital Bulletin, 1915, pp. 57-60.
 Fisher—N. Y. Med. Journ., 1915, p. 455.
 Hensel—Med. Record, N. Y., 1915, p. 767.
 Polon—Med. Record, N. Y., 1915, p. 1097.
 Case—Surg. Gyn. and Obstetrics, July 1915, p. 76.
 Plummer—Am. Journ. Med. Sc., 1913, p. 790.
 Wilson—Am. Journ. Med. Sc., 1914, p. 344.
 Mayo—Surg. Gyn. and Obstetrics, 1914, p. 351.
 Stoney—British Med. Journ., Aug. 31, 1915.
 Falta—Ductless Glandular Diseases, Translated by Milton Meyers, Philadelphia, 1915.

Discussion.

Dr. W. W. Boardman: I should like to agree with the first speaker regarding the attitude of the surgeons. Most of them insist upon operating on all their cases of fibroids, so that, up to the present, very few of them filter through for X-ray treatment. At the Stanford clinic we have had two cases and in these two, the results have been very satisfactory. However, the patients have not been followed up long enough for any definite conclusions to be drawn. The technic used there follows that of the Freiburg school, using the Coolidge tube, the hard filtered rays and the cross-fire method. I feel convinced that the X-ray offers great possibilities in gynecologic work, especially in patients about the age of forty. The younger patients, I should feel inclined to leave to the surgeon. I fear also to take the cases in which the diagnosis is not altogether certain. We have all seen cases on the operating table which have demonstrated mistakes in pelvic diagnosis. It is

certainly very important to carefully watch the clinical course during treatment. Any unexpected happening should call for immediate investigation.

I believe that radiotherapy will be used more and more in gynecologic work and the fact that men of wide surgical experience abroad have practically abandoned surgery and adopted radiotherapy argues very strongly for this method. I can certainly agree with Dr. Ruggles as to the excellent results obtained in hyperthyroidism with the X-ray. I have seen several cases in the last few years in which there has been very decided temporary improvement. I say temporary because we have not as yet followed these cases long enough to know that it is permanent. I believe it is very important in treating these patients to put them at rest perfectly in the hospital. Also to search for and remove all points of focal infection—tonsils, teeth, sinuses, etc., as recently emphasized by Billings and Rosenow.

Dr. Saxton Pope: I have seen two cases, one where the treatment was given for menorrhagia and the other for fibroid. Both were greatly helped. After treatment of a year, I could not find the fibroid. The menorrhagia stopped completely. The treatment was very satisfactory to her, and it seems particularly applicable to that type of case.

Dr. Kreutzmann: I am very glad to hear of somebody else who now starts in to take that sort of treatment. I must say that I, personally, was at first (several years ago) a kind of disbeliever, but from what I have seen personally, and from study, I have become thoroughly convinced of the great possibility of the radioactive agencies. I believe that the wonderful curative action of all the different radio systems, of which the X-ray is only one, will revolutionize the practice of medicine. As Dr. Boardman has told you, not only in Germany, but in France, men of wonderful ability as operators—men like Krönig, one of the most skilful operators you could imagine; men like Doederlein and Bumm—have laid aside the knife and employ rays therapy. I had a very peculiar experience in Berlin. The chief of the Roentgen department, speaking of the question of fibroid of the uterus, said: "We have no interest in that any more. That is settled. We want now to make new investigations. What we are interested in now is treating malignant tumors with X-rays." Some men there who have conscience enough to know what they are doing, and who have observed enough, use radioactive substances not only in non-operative cases of carcinoma of the uterus, but in cases favorable for operation. They say that in five years we will compare the results. I have seen, myself, a case of carcinoma of the uterus where the result was marvelous. Professor Doederlein said to me, when he showed me a number of cases: "If anybody told me what I am telling you now, I would not believe him. I would have to see it myself."

Dr. Ruggles: Dr. Hyman has asked about treatment of thymus cases. The thymic type will respond more readily than any of the others. The clinical side I have not been able to keep in very close touch with. The cases with which I have had the most success, have been referred as thymic patients. It is reasonable to suppose that they would react more easily than any others, because of the susceptibility of the thymus to radiation.

At Johns Hopkins, Barker and Halsted are enthusiastic about the Roentgen treatment of thyroid cases. Garré reported several years ago that 95% of the fatal cases of Graves disease showed persistent thymus at autopsy. Cases of hyperthyroidism, in which symptoms persisted after operation, were greatly improved when thymectomy was done subsequently. Impressed by this observation, they started radiation on several cases, which had not been benefited by operation. The improvement was so marked, that they have con-

tinued the treatment on their subsequent cases.

In the matter of future possibilities it is improvement in technic and apparatus which will give improvement in results. The Coolidge tube is a great help. That is a tube in which the current depends not upon a variable amount of gas in the tube, but upon the incandescence of a filament which can be maintained at a given point indefinitely.

The General Electric Company is now working on a tube of this type which will back up a 20" spark. The gamma radiation of radium corresponds roughly to a 15" or 17" spark. With the perfection of such a tube, the results of Roentgen treatment in all fields should be tremendously increased.

THE CONSERVATIVE TREATMENT OF FRACTURES OF THE LONG BONES AND OF WOUNDS COMPLICATING THEM—A PAPER IN ORTHOPEDIC SURGERY.

By JAMES T. WATKINS, M. D., F. A. C. S.,
San Francisco.

(Continued from Page 237, June Issue, 1916)

PHYSIOLOGIC USE WITHOUT OVERWEIGHTING.

All surgeons are agreed that physiologic use is the best agent in assisting to make union solid. With fractures of the lower extremity it is good practice to let the patient walk as early as possible with a protecting brace or splint such as a Thomas caliper cut so long that the patient's heel just clears the ground. In certain cases a Hessing or a plaster of paris sheath splint may be employed. Other cases of malunion may be consequent upon a too imperfect reduction of a fracture or upon failure to maintain the parts in good position after a fracture has been reduced. Usually these commoner forms of malunion may be prevented by anticipating them in the setting.

It is always to be remembered that tenderness at the seat of a fracture means the callus is still soft and yielding. Not infrequently the patient complains that the deformity is growing worse.

If the callus will yield in one direction under one set of strains, it can be made to yield in another and opposite direction under another set of strains. Therefore not infrequently by either appropriate splinting or balancing or by actually re-breaking and again setting a limb, the deformity consequent upon malunion may be overcome.

THE CLAVICLE.

Fractures of the clavicle are often the result of direct violence, the blow being usually a shattering one. I have had occasion to cut down on a number of them, frequently to find that instead of a clean break I had to do with three fragments. Unless firm union is obtained such fractures may become the cause of much discomfort. As a rule patients recover with some deformity. The immediate end of treatment is to keep the shoulder well back and out. This assures proper alignment. The Sayre adhesive plaster dressing can be made to accomplish this. It is not comfortable, however. By far the most comfortable dressing is a combined plaster of paris cuirass and shoulder spica.

THE HUMERUS.

For fractures of either the anatomical or the surgical neck of the humerus Bigelow's dictum issued in 1844, "Pad in the axilla. Arm at the side. Hand in a sling," may usually be accepted. Especially is this so in old persons where the fracture is impacted. In those instances where the X-ray shows marked deformity, the upper fragment being displaced outward, an attempt at manipulative reduction should be made. To do this an assistant should make vigorous traction downward on the hand, then, without relaxing his pull, outward; and finally upward. The pull should be sufficient to separate the fragments. The surgeon then with one hand in the axilla and one on the arm can cause the rough surfaces to engage. Care should be taken that when they do this the lower fragment is rotated out sufficiently to permit the hand to be placed on the back of the head.

In accordance with the surgical principle that a fracture near a joint should be immobilized in that position which is ordinarily attained with the greatest difficulty, where there is a fracture of the sort just considered one would naturally fix the arm in the extreme of abduction and elevation with moderate external rotation. This is Dr. Whitman's procedure and was the one employed heretofore by the writer. Mr. Jones advises, however, that after the bones have engaged the arm should be gently brought to the side and immobilized in the usual way.

Fracture of the shaft of the humerus may be complicated by injury to the musculo-spiral nerve, or by the inclusion of this nerve in the callus. In such an event to operate is the only alternative. I have had only one such case. The most efficient dressing I have employed was a plaster of paris spica applied to the shoulder, the arm and the forearm, the latter being flexed to a right angle. While the splint is being applied, downward traction should be maintained on the arm by means of a loop of bandage passed around the flexed forearm and held by the operator's foot so as to prevent overriding of the fragments.

THE ELBOW JOINT.

Fractures of the olecranon should be immobilized in full extension. With this exception all injuries about the elbow joint should be put up in supination and extreme flexion.

In this way the coronoid process is made to fill up the coronoid fossa, thus keeping it clear of callus, while the tendon of the triceps forms a sling about the broken parts holding them together. The flexion is maintained by an adhesive strap surrounding forearm and arm and the limb is suspended from the patient's neck by a bandage round the wrist.

I have in the past two years treated nine elbow fractures in this way with functionally perfect results. All except one were in children. In one other case flexion occurred at the site of fracture. Here an incision was made over the external condyle and the gloved finger introduced into the wound and behind the fracture. In this way the

broken ends were held in place until the joint had been flexed. In place of hyper-flexion one may put the hand up in hyper-extension. We have the authority of W. W. Keen and of Robert Jones for it that this method is fraught with much greater danger of ankylosis to the patient.

THE FOREARM.

In children because of the presence of a strong periosteal hinge it is frequently possible, even when both bones are broken, to straighten the arm and obtain ideal alignment and apposition. In adults, on the other hand, in the presence of fracture of both bones, ideal apposition and alignment frequently cannot be obtained without resort to open operation. In that event it is usually the fragments of the radius which resist replacement. For some unexplained reason attempts at plating this bone are frequently followed by delayed union. It is advisable therefore to adjust the fracture and then close the wound and apply an external splint rather than to employ an internal splint.

When the attempt is made to set the fracture by manipulation, the anatomical facts must be borne in mind that the ulna is straight and subcutaneous throughout its length, whereas the radius curves about it. Therefore anterior and posterior valve-shaped splints should be so applied that the ulna is supported throughout its length, while no pressure at all is made on the middle of the shaft of the radius. The anterior and posterior valves are united by adhesive straps at wrist and elbow.

Splinting for fracture involving a single bone of the forearm constitutes an exception to the rule for employing valve-shaped splints. In this case the forearm is placed in supination since in that position the shafts of the two bones are most widely separated, and anterior and posterior board splints applied. These splints must be wider than the arm. The anterior extends from the flexure of the elbow to the middle of the palm where a roller bandage is strapped to it to enable the fingers to curl around it. The posterior board extends from the point of the elbow to the wrist. Both boards are suitably padded and then fitted in place by three adhesive straps, one at either end and one in the middle. Here advantage is taken of the fact that a flat board will touch a cylindrical limb only along a single line to force the anterior and posterior muscle bellies into the interval between the two bones, thus crowding them apart, avoiding the danger of malunion and indirectly fixing the fragments of the broken bone. The adhesive straps can be drawn tight without danger to the circulation so long as the boards are wider transversely than the patient's arm.

The essentials to be borne in mind in treating Colles' fracture are:

- 1, That there shall be a true and complete reduction of the deformity;
- 2, That the fingers shall be left free from the first and motion of them encouraged;
- 3, That passive motion at the wrist should be avoided while the callus is soft and sensitive.

If reduction is complete almost any one of the

many splints devised for the purpose will maintain it. Massage, gentle at first, should be begun early and should be vigorous by the end of the third week. When the splints are removed the wrist should be supported by circular adhesive strapping for the space of three inches. The danger with Colles' fracture is that there will be too much and too long splinting.

THE CARPUS.

Only fracture of the carpal scaphoid deserves special mention here. There is noticed stiffening and weakness of the fingers. It is found that there is inability to dorsiflex the wrist and there is an area of acute sensitiveness to pressure in the "anatomical snuffbox."

The indication for treatment is to dorsiflex the wrist and immobilize. If a displaced fragment of the bone prevents this, try to press it back into place and then dorsiflex. If this is not successful cut down on the fragment, remove it and then dorsiflex.

Immobilize on an anterior splint so constructed as to maintain dorsiflexion and permit of free motion of the fingers.

FRACTURES OF THE LOWER EXTREMITY.

Fractures of the femoral neck. It should be borne in mind that a so-called traumatic coxa vara, or bending of the femoral neck, is the most frequent sequel following upon an "intra capsular fracture." The functional consequences of such a change are marked limitation of abduction and great added strain to the weakened bone. Treatment should be directed toward preventing the occurrence of this traumatic coxa vara by maintaining, if it be present, or reconstituting, if it be diminished, the normal angle made by the femoral neck with the shaft.

Recalling in this relation the fundamental principle underlying the treatment of all fractures near joints, namely, that the parts shall be immobilized in the extreme of that motion which is ordinarily most difficult of attainment, it becomes at once apparent that the limb should be immobilized in maximum abduction. To do this proceed as follows: Anesthetize the patient and place upon the sacral support ready for applying plaster of paris. Abduct the sound limb to the limit of motion. Next, supporting the affected limb, carefully abduct it, using gentle but positive force, till it makes an angle with the body equal to that made by its fellow.

Maintaining these positions apply plaster of paris in a double spica from the toes to the axillae. Reinforce it by a stick extending from one foot to the other, its ends being incorporated in the plaster of paris splint. In this way the fragments of the femoral neck are both pressed together and their alignment assured by the integrity of the pubo-femoral ligament which by this manoeuvre is made tense.

Where because of threatened hypostatic pneumonia, or for other cause, it is not expedient to keep the patient lying down the same result may

be sought in the following way first advocated by Dr. Maxwell of Keokuk, Iowa:

1. Make a 25-pound pulley traction downward in the direction of the limb, and 2, a 15-pound pull obliquely upward and outward over the side of the bed. The resultant diagonal of force of these two tractions will be represented by a pull in the direction of the femoral neck. In this way the capsule is drawn out as a tense sleeve about the fractured ends, maintaining them in proper alignment.

After applying this dressing the patient may be sat up in bed without disturbing the setting.

The writer has used this method successfully in the case of an old lady 89 years of age.

FRACTURES OF THE SHAFT OF THE FEMUR.

These are best conservatively treated by constant traction as exposed in the Thomas bed brace. This consists of a padded ring which encircles the thigh and from which depend two metal rods which meet ten or twelve inches below the patient's foot. The ring is crowded upward against the patient's perineum and ischial tuberosity while a steady unremitting pull is made on the limb by adhesive or other form of tractions, the lower or free ends of which are attached to the bottom of the splint.

Sheath splints of plaster of paris or of sheet iron properly padded then extend posteriorly from gluteal fold to lower third of leg, and anteriorly from groin to above patella. They are swung between the uprights of the splint by means of slings of bandage material. As muscle spasm relaxes the tractions become loose and have to be taken up. The nurse or attendant must be instructed to wipe the ring from time to time with a soapy rag and to move the skin under it every two hours for the first day or two that it is worn.

When there is shortening it may be pulled out under deep anesthesia, using a watch tackle, that is, strong pulleys, until the leg is as long as its fellow, and then all the lengthening so gained must be maintained by applying the splint just described.

After six weeks the patient may be got up, wearing a walking caliper made from the same splint by cutting it one-fourth inch too long for the leg and fitting the ends into round sockets in the sole of the shoe just in front of the heel. In this way the patient's heel is kept off the ground and he has the advantage of exercise while still unable to put his weight on his injured limb.

The same apparatus may be used in treating fractures of the upper three-fourths of the tibia and fibula. Fractures involving both bones in the lower third of the leg are exceedingly intractable. They are best treated by open operation.

Because of the frequency with which nonunion occurs in this region it is well to see after doing an operative reposition whether the fractured ends will not remain engaged firmly enough to permit of the application of a cast without the introduction of an internal splint.

POTTS' FRACTURE.

It is not my intention now to discuss the causation nor the pathology of Potts' fracture beyond saying that there is a break of the fibula

some distance above the joint, while the tibia may have sustained any one of several injuries all resulting in the same thing, namely, a break or tear of that portion of it to which are attached the internal lateral ligaments of the ankle joint. There is sometimes also a tearing loose of the anterior border of the lower end of the tibia with a dropping down of the fragment. Unless sought for and corrected when present this last named derangement, by interfering with dorsal flexion, will nullify what would otherwise have been a perfect result.

The deformity consequent upon these derangements is a displacement outward of the foot on the leg. Further, there is usually a displacement backward of the foot on the leg. When this occurs you will notice that the anterior articular edge of the tibia, that is, its lower border in front, is unduly prominent. Occasionally the foot is displaced forward. But this derangement is rare. What now is our mechanical problem and how are we going to meet it?

The problem is to straighten out the overlapping in the fractured fibula at the outer side of the leg, to bring the torn ends of the tibia at the inner side of the ankle into closest apposition, to reduce the subluxation usually backward (though sometimes forward) of the foot on the leg and—remembering our rule—to immobilize the joint in that position which it finds most difficult to assume.

Assuming that I have to do with the usual form of Potts' fracture—that in which the foot is dislocated backward on the leg—I proceed as follows: An ordinary kitchen roller towel is passed around the leg opposite the lower end of the tibia. I place my foot in the loop of this towel. In this way the limb is definitely anchored at a given distance from the floor.

Next, a second roller towel is passed around my shoulders and behind the patient's heel. You will at once perceive that by merely straightening my body I shall be able, whenever I wish to do so, to exert a tremendous forward pull on the backwardly dislocated foot. At the same time my hands are free to guide the foot during the manipulation.

Now the superior articular surface of the astragalus is narrowest at its posterior part; a fact of which we should take advantage in our efforts at reduction.

The following is my actual maneuver:

1. Place my roller towels about the member in the manner indicated.

2. Flex the knee and thereby relax the pull of the tendo Achilles.

3. Grasping the foot with the hands pull it down into full plantar flexion. This will bring the narrowest part of my astragalus into the tibio-fibular mortice.

4. While maintaining plantar flexion I straighten my body. This will cause the roller towels to make the foot to skid forward upon the narrow posterior superior articular surface of the astragalus. And the subluxation backward is seen to be overcome.

5. Still maintaining the knee flexed carry the foot into full dorsal flexion. In this way, should an anterior fragment of the lower end of tibia have dropped down it will be forced back into place.

6. Without losing any dorsal flexion, the whole foot is turned or twisted inward to the limit of supination.

7. While maintaining the posture obtained by the preceding maneuver, a thick layer of cotton wadding is applied, and over it a plaster of paris cast. Correction is maintained while the plaster is setting.

8. As soon as the plaster has set firmly it is good surgery to split the cast throughout its length. I do this not for the reason set down in the textbooks, namely, fear of gangrene, but because I believe that in the course of our studies of the cause and treatment of ununited fractures swelling has been definitely proven to be an important factor in the normal process of repair of bone.

Your patient may be got up on crutches and wearing his cast in three weeks. At this time the cast may be so loose that you will have to renew it without, however, altering the position of your foot.

At the end of six weeks you can have the inner side of the sole and heel of his shoe raised one-fourth inch and flanged inward, and the shank of shoe blocked solid.

If the patient be heavy, an outside leg iron, working in a round socket just in front of the heel, should be supplied. A strap about the ankle pulls the foot over toward this leg iron and into a position of supination. This shoe, or shoe and iron, should be worn for three or four months longer.

If this precaution is not taken what at first appears to be a good result will gradually, through stretching of the soft callus, be transformed into a painful pronated foot.

Though not germane to the general heading of this paper, fractures of the heel would appear to be so common among industrial accidents that a note concerning them is appended here.

The treatment given those fractures of the heel which have come before me for review has invariably failed to prevent a crippling deformity.

The cause of such fractures is a fall from a height where the patient lands squarely on his feet in a standing position.

The lesion is a crushing of the os calcis, usually with involvement of the sub-astragaloid joint and sometimes of the astragalus. It may be so severe that if the bone is cut down upon the fragments will resemble a bag of pebbles. In appearance the heel is widened from side to side and shortened from above downward.

Manifestly the worst possible treatment would be prolonged immobilization in full dorsal flexion. Extreme dorsal flexion being always associated with abduction. But this would seem to be precisely the treatment usually employed.

The object of appropriate treatment is to return the os calcis to its original shape and to re-establish normal motion in the sub-astragaloid joint.

This can be attempted in the following way:

(1) Relax the pressure on the heel by plantar flexing the foot, and maintain this plantar flexion to the end of treatment.

(2) Pull the heel down by passing a sound from side to side in front of the Achilles tendon and making traction upon it. Make sure of pronation and supination by rocking it from side to side to the limits of normal motion while making traction.

(3) Place the foot on its side on a sand sac and with a padded hammer impact the fragment.

(4) Immobilize in a plaster of paris dressing, the foot being still in plantar flexion.

(5) In a few days, and never later than after two weeks, begin with gentle passive motion in the sense of supination and pronation.

(6) Keep off the foot for three months and resume walking while wearing an appropriate arch support.

As in all fracture work proper massage will hasten recovery.

The foregoing is an outline of the way in which your orthopedist, who is primarily a bone surgeon, views fresh fractures of the long bones and of the principles upon which he bases his treatment.

SOCIETY REPORTS

MARIN COUNTY,

Marin County Medical Society met on Thursday evening, May 12, at the home of Dr. E. J. Hund in San Anselmo. The paper of the evening was by Dr. R. L. Ochsner, on the early diagnosis of tuberculosis. The paper received much discussion.

Among those present were Drs. S. M. Augustine, J. P. Crawford, H. O. Howitt, E. J. Hund, H. O. Hund, W. F. Jones, L. L. Stanley, C. A. Flannagan and E. W. Alexander.

At the close of the meeting refreshments were served.

Respectfully submitted.

O. P. STOWE, Sec.

PLACER COUNTY.

The Placer County Medical Society held its regular meeting in Auburn, Saturday evening, March 25th. Through the courtesy of the Trustees of the Placer Union High School, the Assembly Hall of that building was used as a place of meeting.

The March meeting was a Public Health meeting, and for this reason a special invitation was sent to each member of the local Boards of Health of Placer County, inviting an attendance at the meeting.

Doctor James G. Cumming, director of the Bureau of Communicable Diseases of the State Board of Health, read a paper entitled "The Protection of Public Water Supplies with Special Reference to Dysentery and Typhoid Fever." Professor W. B. Herms, of the University of California, who has charge of the special work to be done by the State Board of Health in its campaign against malaria, gave an address illustrated by lantern slides, on "Practical Aspects of Malaria Control."

These papers were discussed by members of the society and visitors.

It is expected that the next meeting will be held in Roseville.

ROBERT A. PEERS, M. D.,
Secretary.

MENDOCINO COUNTY MEDICAL SOCIETY.

At the call of the president, Dr. L. C. Gregory, a meeting of the Mendocino County Medical Society was held at Hotel Cecille, Ukiah, on the evening of the 3d of June.

Invitations to be present had been extended to all

the profession in the county. As the majority of the members had had 60 miles or more of mountain roads to cover, the proceedings were started by a banquet gotten up by the Ukiah members. Before starting upon that most of all important matter—that of supplying fuel for the delicate and superbly regulated mechanism, the human body—an informal and general levee was held in the foyer, giving all of us the privilege of making the acquaintance of our special guest of the evening, the jovial Dr. Gustaf J. Bergener of San Francisco, and I must say it does make a fellow feel good to meet such a man.

The Ukiah members did not wish to allow the coast fraternity to surpass them in hospitality, and I do believe the hostelry had been given carte blanche, which it had utilized to its fullest extent.

In addition to Dr. Bergener, those partaking of the excellent cuisine of this hostelry were: Drs. J. Liftchild, Ukiah; G. A. Woelffel, Willits; G. W. Stout, Ukiah; R. Babcock, Willits; F. C. Piersol, Mendocino; F. G. Gunn, Willits; S. L. Rea, Ukiah; D. R. Smith, Talmage; C. L. Sweet, Elk; H. H. Wolfe, Albion; F. O. Cleland, Ukiah; T. B. Hopkins, Potter Valley; F. McLean Campbell, Fort Bragg; L. C. Gregory, Fort Bragg; O. H. Beckman, Fort Bragg; also Mr. Dominguez, Dr. Bergener's lantern operator, and two Fort Bragg High Schoolers—chips off the president and secretary—the former an embryo M.D., the latter to be developed into an architect. May the sun ever shine brightly upon all of the partakers, and especially so upon those whose guests we were.

After every one had done justice to himself and the food, the president called upon the secretary to say something. The secretary does not recall all he said, but he is sure his remarks could not have spoiled any appetites as those were already satisfied, and he hopes nobody carried away any sore bumps upon their persons. He was followed by Dr. Liftchild, whose after dinner speech will go down into the history of Mendocino County Medical Society gatherings as one of the most mirth-producing remarks that ever hit its professional funny-bone. This was followed by a funny rhyme entitled "A Matter of Dress" by Dr. Woelffel of Willits.

After the banquet came the special feature of the evening by Dr. Bergener, who read a paper on "Gastric Symptoms without Gastric Lesions," which Dr. Bergener's assistant illustrated by X-ray lantern slides. This paper and its scope represents such important and excellent matter that it is impossible for me to even attempt to do it justice in a few words, and therefore I do not even try it.

The Mendocino County fraternity gave Dr. Bergener their sincere vote of thanks.

Dr. L. McLean Campbell, Fort Bragg; Dr. George August Woelffel, Willits; Dr. Judson Liftchild of Ukiah, and Dr. Geo. W. Stout, also of Ukiah, made applications for membership. Their names were sent to Dr. P. M. Jones, the State Secretary, for approval according to the rules.

The next place of meeting will be Fort Bragg.

This meeting was the most successful one of its kind ever held in this county.

OSWALD H. BECKMAN, Secretary.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of May, 1916, the following meetings were held:

Section on Medicine.

Tuesday, May 2d.

1. The Use of Emetin.....A. C. Reed
2. Some Aspects of Treatment of

Infantile Paralysis.....H. W. Wright

General Meeting; Southern Pacific Hospital Clinical Evening.

Tuesday, May 9th.

1. Stereo-Roentgenology (Illustrated)
.....E. G. Cambert
2. Interesting Fractures (Illustrated)
.....J. H. O'Connor, S. J. Gardner and W. B. Coffey
3. Echinococcal Bone Disease; Report
of Case (Illustrated).....C. A. Walker

4. Report of 15 Recent Cases of
Trichiniasis (Illustrated).....G. R. Carson
5. Report of Case of Hepatic
Cirrhosis (?).....J. Wilson Shiels
6. Foreign Bodies of the Eye; Localization;
Prognosis (Illustrated).....W. F. Blake
7. Salvarsan and Mercuric Chloride in
Lues.....W. T. Cummins

Section on Eye, Ear, Nose and Throat.

Tuesday, May 23d.

1. Presentation of Cases:
A. Endothelioma of nose treated by Killian
operation and X-ray.....H. B. Graham
B. Traumatic cataract of ten years duration,
now absorbing spontaneously.
C. Report of Case; double-sided optic atro-
phy; question as to etiology.....Hans Barkan
2. Eye, Ear, Nose and Throat in Relation to
Diseases of the Thyroid and Thymus
.....Hans Lissner
3. Demonstration of Roentgen Plates Illustrating
Sinus Disease.

Section on Urology.

Tuesday, May 30th.

1. Hydronephrosis.....R. L. Rigdon
2. Protein Cystin Renal Calculi.....C. W. Lippman
3. Late Results of Operation for
Hypospadias.....F. Fehleisen
4. Gonococcal Fats in the Complement
Fixation Test.....M. Wolff

TRANSACTIONS OF THE SURGICAL SECTION OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY, MAY 16, 1916; CHAIRMAN, HAROLD BRUNN, M. D.

Reports of a Few Operative Cases and Pathological Specimens.

By GEORGE FRANKLIN SHIELDS, M. D., F.R.C.S., Eng.,
San Francisco.

Gentlemen of the Surgical Section:

By your courtesy I will present four specimens from cases, and a short mention of a fifth case, occurring in my practice during the past six months. They were all in Sonoma county, from the practice of two doctors, and were all cared for in the local sanitarium.

1. Two large gallstones removed from the cystic duct of a woman in the late fifties who had never had any biliary symptoms until the present attack, which was characterized by fever (103° F.), small, thready, rapid pulse, pain, vomiting, very slight icterus, leucocytosis, and an exquisitely tender swelling in the right upper quadrant of the abdomen reaching from just above the level of the umbilicus to the free margin of the ribs, dull on percussion. Diagnosed by Doctors Hays and Thompson as acute suppurative cholecystitis with probable ball valve stone in the cystic duct (note the perfect ball valve faceting of the stones). Diagnosis absolutely confirmed at operation. Result, recovery.

2. Ten small gallstones (note peculiar mulberry surface), nine from the gallbladder, one from the common duct by milking back. Removed from a woman in the late twenties who had had for several years attacks of colic which had passed off, but at last had developed profound jaundice associated with high fever and agonizing colic. Diagnosed by Doctor Hays as a partial obstruction of the common duct by stone. Diagnosis confirmed at operation, the largest of the stones being in the duct. Result, complete return to health.

3. A uterus removed from a young cachectic married woman, twenty-eight years of age, for carcinoma. At the time of the operation the cavity of the body was as large as a base ball, and full of a serosanguinous fluid; the cervix was fungoid and bled easily; at a former operation both tubes and ovaries were removed for double salpingitis, doubtless of gonococcal origin. The case was in the practice of Doctor Thompson, who diagnosed the condition, and confirmed the diagnosis micro-

scopically before I was consulted. Operation followed by recovery, marked increase in weight and sense of well-being.

4. An extensive intestinal intussusception removed from a man aged forty, who was suddenly stricken with extreme colicky abdominal pain and nausea followed by profuse vomiting which soon became fecal. The patient developed all the symptoms of complete intestinal obstruction, became enormously distended, and went rapidly into collapse. Doctor Hays made the diagnosis of intussusception superimposed on some former obstructive condition, since the patient a year before had had symptoms of a somewhat similar kind which passed off after the application of hot fomentations and the use of purgatives. He stated that before the distension had taken place, he could make out a sausage-shaped tumor below the umbilicus, and outlined its position before the operation. As you see from the specimen there is every evidence that the condition was a chronic one. Note the ring of fibrous tissue at the entrance of the intussusceptum into the intussuseipens; this evidently permitted the passage of feces until the bowel suddenly wedged, and complete obstruction occurred. Subsequent to removal a side-to-side anastomosis was made. After going through a most critical post-operative history, the patient recovered completely and is now at work and well.

5. The case of a small boy aged four, who was taken suddenly with "bellyache," fever, vomiting, rapid wiry pulse, and increasing abdominal distension; quickly followed by general exquisite tenderness on palpation over all the quadrants. A tympanitic note was present but not so marked in the right lower quadrant. Doctors Hays and Thompson, after three days' observation, made a diagnosis of general peritonitis due to fulminating appendicitis, at the same time holding in reserve the possibility of tubercular peritonitis. Operation confirmed the diagnosis, demonstrating a general purulent peritonitis due to a gangrenous appendix. The appendix was removed, and free drainage instituted. After a trying and stormy two weeks, the patient now seems to be on the way to recovery.

I now beg a moment to make three points which these cases and specimens have suggested to me.

Firstly. The uterus is a sermon in itself. Years since the adnexa on both sides were removed and a foul, infected, useless, and dangerous organ was left as a menace to the health of the patient, either from inflammatory or malignant changes, in this instance the latter took place. Adding this to many other such cases, an axiom develops; i. e., whenever it is found necessary to remove the Fallopian tube on both sides the functionless and dangerous uterus should under no circumstances be left.

Secondly. These five major operations go to prove that while we may miss the great conveniences of the completely equipped operating room of the metropolitan hospital, still, when we have the assistance of experienced, able, and conscientious doctors and nurses, we may expect just as good results irrespective of what is after all only furniture, and not intrinsically necessary. Hence, it is often needless to put patients of moderate means to the expense of journeys and the shock and anxiety of leaving their own surroundings to go among strangers for the sole reason of our own convenience.

Thirdly. Taken together, these five cases supply a valuable argument against the all-too-prevalent tendency to regard Group Work in hospitals and clinics as absolutely necessary for correct diagnosis, a tendency which reaches its acme in the recent writings of Doctor Richard C. Cabot of Boston. Not one of us can fail to recognize, laud, and use group work whenever available, as it is the very best means of arriving at a true diagnosis; best for the patient, best for the hospitals and clinics, and best for the physician and the surgeon. However, in the very nature of things, group work can never be carried out to the exclusion of intelligent one-man work: witness these cases occurring in

a small country town, and every one of them not only diagnosed, but diagnosed to an unusual detailed perfection; remark the intussusception in a middle-aged man, the appendicitis in a four-year-old boy, the pre-operative correct locating of the stones in the biliary cases, all diagnoses of which a surgical teacher or a hospital surgeon might well be proud.

Gentlemen, Doctor Cabot, in his effort to make a really good point, has over-stepped himself, and since he has gone over to yellow journalism under the title "Better Doctoring for Less Money" (the American Magazine, April and May 1916), and has allowed the editor to give him great weight by describing him as follows: "Dr. Cabot is one of the most distinguished physicians in the United States. He is chief of the medical staff in the Mass. General Hospital." Considering this quotation, I say that since he has done this, and openly attempted to belittle the general practitioner in the public eye by practically stating that he cannot fulfil his functions on account of ignorance, Dr. Cabot should be regarded as a menace to the profession, a man whose brilliancy and ability has been clouded by a kakoesis for dangerous popular publicity.

In closing, I am safe to state that the finished diagnostic ability evidenced in Sonoma county will be found just as conspicuous in other small towns in these United States, and often times is as conspicuous by its absence in larger cities, among the rank and file of general practitioners on account of the facility of consultation in puzzling cases.

Aneurysm with Abdominal Symptoms.

By C. W. LIPPMAN, M. D.

In the past twelve months I have seen thirty-eight aneurysms, twenty-seven in the San Francisco Hospital, eleven in my private practice; over half of these were not even suspected; five came with a diagnosis of gastric carcinoma because of haematemesis, loss of weight, and cachexia; many came with a diagnosis of intercostal neuralgia; two came with plaster-casts for chronic arthritis of the vertebrae—a third was about to be referred to an orthopedist for his "rheumatic" symptoms. The reason these are presented at a surgical meeting is because I believe that every chronic abdominal case should have a complete routine examination, including stool examination, fluoroscopy, and Wassermann, before the abdomen is opened. A case in point was Mrs. W., who was sent to me with typical gallbladder symptoms, paroxysms of pain in the right hypochondrium radiating to the right shoulder—attacks came on chiefly at night. I found nothing in the gastrointestinal tract—missed the aneurysm on my first examination. On a subsequent examination I found a very small area of expansile pulsation at the bend of the arch of the aorta into the descendens. Anti-luetic treatment relieved the pain—the tumor decreased in size.

Note:—The criticism at the time of delivering this paper was that this particular case was an aneurysm with gallstones. The autopsy performed on May 30 showed a small aneurysm in the situation described and no gallstones.

3. Cleft Palate: Discussion of Operative Technic, with Illustrative Diagrams.

Abstract of Paper.

By H. M. SHERMAN, M. D.

The anatomical conditions of cleft palate were briefly mentioned to illustrate the possibilities of the two accepted forms of operation, the Langenbeck and the Lane. Contrary to the statement of others, the Langenbeck technic was declared applicable to all clefts and at all ages of the patient. In general, the writer preferred to wait until the child weighed 15 lbs. He described how, by elastic compressive traction, the maxillae could be approximated to lessen the width of the cleft. He described in detail, with illustrative diagrams, the technic, making points of the splitting of the sides

of the cleft instead of paring them to avoid loss of tissue and to permit both pharyngeal and buccal sutures in the soft palate and uvula. He advised mattress sutures in the flap at the junction of the hard and soft palate and anterior to that place. He advocated ample lateral releasing incisions, made to avoid vessels and nerves and the follicles of unerupted teeth. He advised a waxed tape put around these flaps after their suturing to control the pull of the muscles of the soft palate and prevent the tearing out of sutures. As it was not possible to suture the entire cleft in this way and be sure of a maintenance of the circulation, he restricted this first operation to the posterior half of the palate. Later he closed the anterior part by the Lane method, and the lip was done between these two by a simple method which avoided any notehing. He spoke of the disappointments in healing which were sometimes encountered and of the need under these circumstances for secondary operations. He reported satisfactory results by the method, from a cosmetic and also a functional viewpoint. Paper to be printed in full later.

Discussion.

Dr. J. Henry Barbat: I am very glad indeed to have heard Dr. Sherman's paper. I may adopt his method of operation some day, but for the past eight years, ever since I had the pleasure of meeting Mr. Lane, I have done Lane's operation, with a set of instruments which he sent me. I will pass around the needle holder, also his periosteal flap elevator, and last, but not least, one of his most valuable instruments—the little mouth gag, the most satisfactory gag I have ever seen except when the patient has teeth. This is placed in the child's mouth and drawn back, and the little points prevent the thing from slipping. Mr. Lane's knife is a very small article, almost like a cataract knife, but very satisfactory for splitting flaps and making incisions in the palate.

Mr. Lane takes the child, if possible, during the first 24 hours, before it has had time to be badly fed, poorly nourished, and therefore to have its tissues in bad condition for healing. The tissues are almost of the embryonic type and unite readily.

The incisions may or may not extend over the alveolar process, depending upon the width of the cleft.

The oldest child upon whom I operated was a boy of 10, with a cleft palate and hare lip. Naturally I could not touch the alveolar process, but I got a perfectly satisfactory result. If you cut beyond the alveolar process, you sacrifice the milk teeth on one side.

(Description of Lane technic by amplifying Dr. Sherman's diagrams.)

The greatest difficulty I have had is in closing the little hole between the nose and mouth, simply because of my poor technique.

With regard to speech, Mr. Lane states that if the patients are operated upon very early, the probabilities are that they will not have a nasal twang. If allowed to go on until they are able to speak, they will unquestionably have the nasal twang no matter how well you may fix the soft palate. He explains this by saying that the sounding part of the nose is allowed to contract, while if operated on early the nasal fossa remains more open, due to the child breathing through the nose, and the nasal twang is prevented.

In cases where the premaxillary bone projects, he does not endeavor to force it back, but merely brings the lip together over it, and finds this sufficient to force it back in place in a few weeks.

As Mr. Lane says, the children take the anesthetic like milk and the operation like a joke, and after a fortnight, if you look into the child's mouth you can scarcely see where the palate has been denuded.

Dr. C. G. Levison: The Society is to be congratulated on the character of this paper and the manner in which it has been presented. The honesty Dr. Sherman has displayed in telling about his failures is very edifying.

Two points of importance have not been mentioned. One is the anesthetic used and the other is the position of the patient on the operating table.

In considering the age that is most desirable for operation there are several points that in my opinion, have not been sufficiently emphasized, one in particular being that which Lane has brought out in reference to very early operation, for many of the disadvantages and difficulties that are experienced in 15-pound children are obviated when operation is performed upon infants only 24 hours old. At this age the cleft is much smaller than it is a month or two later, for it widens relatively quickly so that an operation performed upon children a day or two old is much easier in every respect than when performed later. They bear operations and anesthetic remarkably well.

A point mentioned by Dr. Barbat is the fact that the tissues at this age are practically embryonic, very vascular and full of vitality; it must also be remembered that micro-organisms have not yet developed and that the tissues as well as the secretions of the mouth are practically sterile.

We have all had the experience of operating upon these young children for circumcision, etc., and know that their tissues heal with extraordinary rapidity.

I spent quite some time working with Mr. Lane at the Great Ormond Street Hospital and I saw him operate two or three of these cases almost daily. He operates them with remarkable skill and he repairs the cleft palate and hare lip at one sitting. As is well known, Lane's is a flap operation without lateral incisions. One of the important principles that must be observed in all of these operations is that there shall be no tension of the tissues because when this occurs failure is probable. A point that Lane brings out is the difficulty in closing the little space at the angle of the cleft at alveolus; this space is very difficult to close by suture and Lane has advised the employment of very small needles which he uses with his needle holder; they have a full curve one-third of an inch in diameter and one is able to suture this space in a manner not possible by any other means. Lane fills in this space by swinging in a piece of the tissue that is usually removed from the hare lip.

Another point is to keep the child, when crying, from moving its mouth, which interferes with healing. Lane uses the so-called undertaker's stitch which is introduced from within the mouth; passing through the face it is brought out at the point of union of the ala of the nostril and the upper lip; the needle is then passed through the tissues again from without inward almost through the same puncture; there is enough tissue held in the loop of the suture to prevent it from pulling out. The thread is then carried across the front of the gum and is re-introduced through the corresponding side from within outward and back again into the mouth in the same manner; the suture which now has a loop held at each ala of the nostril is then tied in front of the gum under the lip. It holds the lip tissues so that they cannot be moved and relieves the tension on the tissues so that healing is more apt to occur. The same result is accomplished by Dr. Sherman's plaster appliance.

The suture that I have found of value as far as cosmetic effect is concerned, is introduced as follows: In closing the hare lip, catgut sutures are re-introduced through the mucous membrane and are brought up to the cutaneous surface, but do not pass through the skin; they are re-introduced on either side of the lip and brought out on the side corresponding to the point at which it has been introduced; when this tissue is tied on the mucous side the tissues are firmly held and as they are catgut, they do not need to be removed, while being tension sutures no skin markings are left to disfigure the face.

The upper layers of epiderm are next united with a fine silk suture and a No. 16 needle such

as is used in blood vessel work; this suture is a continuous one and is only passed through the upper layers of the epiderm. Perfect approximation of the skin is obtained without any suture markings; this suture does not need to be removed, as it falls off with the desquamation of the skin in a few days.

Dr. G. Franklin Shiels: Two points I have noticed to be of some value in handling these operations: (1) to stop the motion of the face, as in crying, etc., after operation—the best way to do is to make an incision at the junction of the buccal and maxillary mucous membrane and loosen up the whole of the face tissues from the underlying bone, so that you can move them freely at the time of operation and have less post-operative strain and motion during healing; (2) in regard to keeping the child quiet, one-grain doses of chloral keep the child restful. Chloroform is the anesthetic of choice, and chloral after operation is a producer of quiescence.

Dr. Harry M. Sherman, closing discussion: This knife, which Dr. Barbat showed, is very nice, although a little large. I prefer the Politzer knife, which is a little smaller, curved, and designed to puncture a hole in the drum membrane. When a Politzer knife has been ground down a little and is smaller than it was originally, it is about the right size for splitting the soft palate and uvula.

I have avoided that gag of Mr. Lane's because of those needle points which cut through the gum and which must go close to the follicles of unerupted teeth. I quoted Goyder when I spoke in criticism of the Lane technic; he says it spoils the teeth if the flap is taken from the alveolar processes and outside of them. Teeth are becoming more and more important to us as we find how they are needed in mastication, and how on infected mouths are based a great many pathological processes which continue during life.

The anesthetic is ether. I have had casualties, fatalities, in children with chloroform, and I do not see any reason for anybody using it. Children take ether just as well. The ether is given by a catheter in the nose, through which is blown air, ether saturated. The anesthetist sits with one hand on the pulse and one foot going quietly on a little foot bellows, giving a little stream of air and ether. When you put that catheter into the nose, put it in a measured distance and stitch it to the septum. If you do not stitch it, it may drop out or slip in too far.

As regards position, there is a little shelf on the operating table which hangs down from the end. The child's head lies on that so that it is very easy to see the whole of the hard palate. The child is surrounded by black towels and the mouth is in high light. If white towels are used the mouth is in shadow and you cannot see into it as well. It was on a cleft palate child that I first got the idea of using a black environment for the operation field.

The suture material is horsehair, of course, and it is always used double. In that way you get a stronger thread and one that will hold better in the tissues.

Mr. Goyder says the Langenbeck operation is not practical in little children, and is a mistake. So far as the size of the child is concerned, the Langenbeck would do as well as the Lane, I think. As a matter of personal experience, I never found a child with so small a palate and so wide a cleft but what I could do the Langenbeck operation.

These children must not be kept in a part of the hospital where suppurative cases are going on; they must not be handled by nurses who are giving enemata, who are washing other children and dressing their wounds. They must be taken care of by people not handling sepsis. I have found it not a bad plan to take the child to the hospital for operation, then send it home to convalesce in the environment to which it was accustomed, and let the mother bring it to the office for dressings.

The question of infection is a very important one. Eastman last year called attention to the necessity for plenty of blood in the flap in order to get union. I have left the flap to the mercy of the anterior palatine artery and ascending pharyngeal artery, and they keep the flap well nourished so that union will occur.

Dr. Levison is right about the little space at the front end of the cleft. It is a difficult thing to close it, and if it is not well closed there may be a leak of fluids up into the nose. I have filled in a piece from the cheek, and it is very curious to see how, after that has been done, there is a vivid flap in a pallid environment, because the mucosa of the lip is a deeper red than that of the hard palate. I do not see how Mr. Lane closes this place with his technic and especially when the projecting intermaxillary bone is in the way.

Finally, the man doing cleft palate operations must make up his mind to a high average of disappointments. The tissue used is thin and delicate and in a potentially septic environment. Usually sutures hold well about four days, and then those at the junction of the soft and hard palates begin to give way and a hole forms. When this occurs one may re-anesthetise and put in fresh sutures, but they go, under these circumstances, into tissue that is edematous and sleazy, and rarely hold well. Really it is just as well to let the condition take its own course and be content with the amount of healing gained at that operation, even though it be small. If there has been no trimming of the cleft edges no tissue is lost and secondary sutures may succeed when the primary have failed. The healing that you finally get after disappointments is a reward of patient merit; and that which happily comes at the first operation is a distinct blessing, and it does come so, though not as often as one would wish.

BOOK REVIEWS

Principles and Practice of Obstetrics. Second Edition. By Joseph B. DeLee, A. M., M. D., Professor of Obstetrics at the Northwestern University Medical School. Large octavo of 1087 pages, with 938 illustrations, 175 in colors. Cloth, \$8.00 net; half Morocco, \$9.50 net.

This large compend of obstetrics is profusely illustrated and systematically arranged to meet the needs of the busy general practitioner. The volume is attractive for undergraduates, but is too extensive for them to read thoroughly in the crowded curriculum of the modern medical school. The short bibliography at the end of each chapter will prove of some aid to men who desire to prepare themselves for a serious study of obstetrical problems, and will tend to lead them to the more complete references of the German texts.

A. B. S.

General Medicine. Edited by Frank Billings and J. H. Salisbury. Volume VI of Practical Medicine Series 1915. The Year Book Publishers, Chicago. 1915. Price \$1.50.

This volume presents, among other things, an exceptionally valuable digest of practically all the important work of the year on gastro-intestinal subjects and well repays reading for this one part alone.

Especially well worked up are the sections on the chemical, microscopical and radiographic methods of gastric and intestinal analyses.

G. H. T.

Manual of Vital Function Testing Methods and Their Interpretation. By Wilfred M. Barton, M. D., Boston. Richard G. Badger, 1916. Price, \$1.50.

Not long ago, following the rapid advances in our knowledge of pathology, it was the great effort

in diagnosis to approximate the anatomical condition present. In many cases it was found, however, that symptoms and signs do not correspond to morphological conditions, and further that what the patient as well as the doctor is really interested in is what his kidneys or other diseased organs will do and not what they may look like. For this reason, there has been in recent times a great deal of research on the subject of so-called functional tests. To a large extent the knowledge on this important subject has been locked up in special journals and inaccessible for general use. The present volume does a very useful service in making a very thorough collection of such data. The more important tests are fully described with comments as to their value, and full references are given even in cases where the tests are not described in full. As a handbook for ready reference the small volume will be found of great value. It is unnecessarily marred by a considerable number of typographical and other errors which will doubtless be deleted in the next edition.

J. L. W.

The Medical Clinics of Chicago. Volume I, No. V1 (May, 1916). Octavo of 229 pages, 22 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Published bi-monthly. Price per year: Paper, \$8.00; cloth, \$12.00.

Contents.

Clinic of Dr. Walter W. Hamburger: The Allen treatment of diabetes.

Clinic of Dr. Richard J. Tivnen: Relation of upper respiratory tract to metastatic infections.

Clinic of Dr. J. C. Friedman: Chronic pain in the right iliac fossa.

Clinic of Dr. Chas. S. Williamson: Hanot's disease. Biliary hypertrophic cirrhosis of the liver. Tumor of left kidney—subsequently operated upon. Operative findings. Abdominal tumor in the position of right kidney and retroperitoneal, but not connected with the kidney.

Clinic of Dr. Joseph Zeisler: Presentation of case of mycosis fungoides.

Clinic of Dr. Ralph C. Hamill: Traumatic neurosis.

Clinic of Dr. Robert B. Preble: Acute nephritis due to tonsillitis, with subsequent development of pneumonia. Case of trichinosis; trichinae demonstrated in spinal fluid.

Clinic of Dr. Frederick Tice: Pleurisy with effusion. Indications for thoracentesis and detail. Acute pneumonia added to pulmonary tuberculosis. Acute pneumonic phthisis.

Clinic of Dr. Chas. L. Mix: Presentation of case of hookworm disease, with special reference to treatment. Hypernephroma of left kidney; Special consideration of hematuria.

Clinic of Dr. Isaac A. Abt: Rachitis.

Pellagra. By George M. Niles, M. D., Gastroenterologist to the Georgia Baptist Hospital, Wesley Memorial Hospital and Atlantic Hospital, Atlanta, Georgia. Octavo of 261 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$3.00 net.

Once upon a time a giant was walking abroad with his little daughter. She suddenly stopped, and stooping, picked up a tiny peasant who was ploughing with his team of oxen. As she held the team in the palm of her hand she exclaimed: "What a wonderful plaything, oh my papa!"

Her father gathered up the team carefully and laid it back very tenderly in the furrow, chidingly saying, "The peasant is no plaything, oh, my daughter!"

If this gigantic social system of ours is to be properly maintained the farm laborer is decidedly no plaything.

As a rule the human being does only as much work as he is impelled to by his necessities or immediate desires, and if these are urgent enough, and he has the health to satisfy them, wealth

accrues to the community. If, however, sickness intervenes, it robs the laborer both of his ability to work, and of the wherewithal to pay for individual medical attention. Furthermore there are diseases of such a general nature that their causes can only be dealt with adequately by the state or the nation. Pellagra and hookworm are of this nature; they involve principally the laboring population over wide stretches of country, and they incapacitate the sufferers for any effective effort. Pellagra is shown to depend on an intestinal intoxication occasioned by the ingestion of spoiled corn. Niles' treatise on pellagra shows how persistently spoiled corn will creep into the dietary when it is monetarily advantageous to the seller to have it do so, and such monetary urgency is seldom lacking.

This book is written in a style easily comprehensible by men not having the special education of a physician, and is valuable because of the clear emphatic insistence on the hygienic rules which must be obeyed if this disease, economically so important, shall be stamped out. D. W. M.

Treatise on Fractures. By John B. Roberts, A. M., M. D., F. A. C. S. Professor of Surgery in the Philadelphia Polyclinic and College for Graduates in Medicine, and James A. Kelly, A. M., M. D. Attending Surgeon to St. Joseph, St. Mary's and St. Timothy's Hospitals, with 677 pages and 909 illustrations, including radiograms, drawings and photographs. Cloth \$6.00. J. B. Lippincott Co., Philadelphia and London. 1916.

It is always a pleasure to find a new book that is really quite up to date. In this instance the authors have presented the treatment of fractures as is followed by the best workers today. Their volume is not overburdened with descriptions of every method of handling fractures ever published. The methods used today, giving the best results, are those described.

The first 116 pages are devoted to a discussion of fractures in general, including the operative treatment. This presents the subject of fractures in a clear-cut manner and places the operative treatment where it belongs, in a conservative position, to be attempted by the skilled operator and under most rigid asepsis. The tables of frequency are of real interest. It is gratifying to find the term "open fracture" used instead of the old term "compound" which should be relegated to the past. Also due recognition is given sprain fractures, emphasizing the fact that many so called sprains are passed up as such when they are really fractures of tips of bones where ligaments are attached.

The subject of epiphysis is well handled and epiphyseal separation properly emphasized.

In presenting the individual fractures, the authors begin with the cranium and progress to the phalanges of the feet, including the sesamoid bones, birth and gunshot fractures. Each fracture is discussed in order from anatomy, etiology, variety, symptomatology, prognosis, treatment to results. In discussing fractures of the skull the authors digress somewhat from the limited subject of fractured bone and properly emphasize the real important condition of injury to the contents of the skull which is the pathology needing treatment.

In discussing the treatment of some fractures, dressings are mentioned in a fairly general way, leaving the details to the surgeon to work out in the individual case, rightly assuming each fracture is a particular problem, to be treated as such and not to be bound down to hard and fast rules.

The illustrations are very abundant and fairly clear for the most part. Typographical errors are very few.

As a whole the authors are to be commended for presenting the subject of fractures in a form that has a definite place in the bulk of medical literature. E. J. B.

Harvey's Views on the Use of the Circulation of the Blood. John G. Curtis, M. D., LL. D. Published by Columbia University Press, New York, 1915. Price \$1.50 net.

In many ways the book written by John G. Curtis on "Harvey's Views on the Use of the Circulation of the Blood" is remarkable. It is worth reading if only for the copious and well chosen translations from Harvey's writings, for Harvey wrote in Latin, not in English.

Previous to Harvey many shrewd observations had been made on the circulation, and even a complete demonstration of the lesser or pulmonic circulation by Servetus, but no one had set forth both the lesser and the greater circulation as Harvey did. He made the subject so clear, and supported his statements with so many cogent observations and experiments, that no unprejudiced reader of his work can refrain from giving him credit for a full and complete discovery.

There is much more in the book, however, than the mere circulation of the blood as it is understood now-a-days. There was then the question of innate heat, which is now entirely forgotten.

Where did the heat of the body come from? The food might be cold, and so might be the surrounding atmosphere, and yet the blood was hot. The heart was looked upon as the source of this heat, and it was assumed to be so ardent that its emanations had to be cooled down by the air entering the lungs. This heat, it was assumed, was imparted by the heart to the blood, and by it was carried to all parts of the body. Harvey differed from this Galenic view, but, of course, could not depart from the idea of innate heat. He had to assume as his predecessors had done, that this heat was innate, or born in and with the being; it was inseparable with this being, began at its birth and ended with its death. Harvey saw that this heat could not be generated by the hollow muscular organ, the heart, and he guessed it to be produced in the blood itself, in the cavities of the heart. This, he was careful to say, he did not assert positively but only advanced as a thesis. He then added that "Whatever might be brought forward to the contrary by learned and upright men without scurrilous language, clamor or contumely I shall be glad to know, and whoever shall do that will earn my gratitude." It was in this open minded spirit that Harvey, in his seventy-first year, wrote to his able antagonist, Jean Riolan, dean of the Faculty of Medicine of Paris. One may imagine what pleasure and intelligence would have lit up his thoughtful eyes and fine features if he could have received, even at that advanced age, a clear demonstration on the subject of heat, such as could be given by a well appointed modern physicist.

A delightful portrait of the great Englishman is included in the book. D. W. M.

American Public Health Protection. By Henry Bixby Hemenway. Indianapolis: Bobbs-Merrill Co. Publishers. 1916.

This little work consists of a description, available alike to the physician and to the layman, of the new public health, that is to say, of public health measures inspired and wrought out from scientific principles as contrasted with the political public health of a generation ago—the hit or miss sanitary measures applied by the political health officer.

The work takes us through the urgent needs of the modern community for scientific public health administration: it gives a good description not only of the local administration but of those national and state health agencies of which few physicians, and for greater reason, fewer laymen, have any conception of.

The basic sanitary campaigns from which many deductions are drawn are here, as in other works, the great work of Gorgas on the Isthmus of Pan-

ama, and the work of Surgeon General Blue in the plague eradication campaign of San Francisco and California.

A few quotations are apropos:

"It is the opinion of most sanitarians that several of those national bureaus should be combined into one department under the leadership of a member of the cabinet, who should be, not a physician, but a sanitarian of broad experience, and with constructive ability." "Its establishment is opposed by certain commercial cliques, who have all found that their business has been hampered by the light of publicity. The opponents are especially the patent medicine manufacturers and 'commercial doctors,' whose practice depends upon misleading the people. Their principal supporter in congress has been a member of the Christian Science organization. One of the strong evidences for the need of such a department is found in the hampering influences of the Secretary of the Treasury when the Marine Hospital and Public Health Bureau were first attempting to cope with the bubonic plague in California. That hampering influence was then instigated by the commercial influences of San Francisco. It seems strange, therefore, that the people of that state who have suffered so severely from this misguided commercial influence, should permit their senator to continue his opposition to an honest and scientific administration of the work of preserving the public health."

"Since this movement has taken more definite form, the Public Health Service has been making rapid developments. It is the contention of the friends of that service that it should be made independent, and that the other agencies should be added to its force, without making other special changes, simply raising the surgeon general of that service to the ranks of a cabinet officer."

The work is written in a fluent style as shown by the above quotations and can easily be read in the course of an evening, and the time thus spent will be amply repaid by the acquisition of a number of new thoughts or rather felicitous expressions of old ideas which can be used in the course of public health work. G. M. C.

Pulmonary Tuberculosis. By Maurice Fishberg, M. D., Clinical Professor of Tuberculosis, University and Bellevue Hospital Medical College; Attending Physician, Montefiore Home and Hospital for Chronic Diseases, New York. Octavo, 639 pages, with 91 engravings and 18 plates. Cloth, \$5.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

This book as indicated in the preface, is intended to supply the general practitioner with information concerning the etiology, diagnosis, prognosis and treatment. It contains 620 pages of text.

Of special interest are the chapters on Tuberculous infection and epidemiology, preparing the reader, as they do, for the significant statements made under the heading of Phthisiogenesis. To those who have not closely followed the investigations of Romer, Much and others, the author's conceptions of phthisiogenesis will seem almost revolutionary. The distinction between tuberculous infection and phthisis in the adult is clearly drawn. Basing his argument on the theory that phthisis is a late manifestation of tuberculosis acquired during childhood, a theory now generally admitted, the author presents the view formulated by Romer that phthisis is really a manifestation of immunity against tuberculosis, which has been acquired by the infection in childhood. Attention is called to the recent experimental proof of immunity in animals, which are abundant, and which have entirely changed our conception of tuberculous infection, showing as they do, the difficulty and even impossibility of reinfection of the infected animal. The author freely quotes Romer, Hamburger and other investigators in this field whose epoch-making work

have prepared us for the almost revolutionary fact that exogenic reinfection in the adult probably seldom if ever occurs. The author in support of this theory calls attention to the fact that attendants and inmates of hospitals for consumptives show no higher mortality nor morbidity from tuberculosis than those in other occupations; that marital phthisis, in spite of intimate and prolonged contact is very rare; that clinical proofs, exist of immunity acquired by tuberculous infection.

Admitting the extreme rarity of exogenic reinfection the inefficacy of much of the activity in modern efforts at prophylaxis come prominently to view. In the effort to protect the adult against reinfection from without the child possessing no hereditary immunity has been too largely overlooked. This would indicate that our tuberculosis campaign will have to be in large measure reorganized and carried on along somewhat different lines of activity. The reader is left in doubt as to the method by which tuberculosis infection originally takes place, although the author rather indicates that because of the predilection of childhood to infection the portals of entry of tubercle bacilli may be various. The numerous investigators along the lines of theories of infection are freely quoted and particularly is that very excellent work of Brauer, Schroeder and Blumenfeld's *Handbuch der Tuberkulose* frequently referred to.

The chapters devoted to symptomatology and physical signs are quite full and complete. The importance of Pottenger's interpretation of spasm and degeneration of thoracic muscles is emphasized and its great value as an aid to early diagnosis admitted. The technic for eliciting various physical signs has been elaborated with great detail and will certainly be of great value to the general practitioner in making more thorough examinations. There is much that is interesting in what the author has to say on auscultation of the chest. Authorities are freely quoted and it is here that in his description of rough or granular breathing, a particularly important early auscultatory sign, it is unfortunate that in his mention of the many writers who have called attention to the sign, he has neglected to give credit to Turban who first brought it out.

The chapter on skiagraphy is conservative, emphasizing as it does, the limitations of this aid in diagnosis. There is not an uninteresting chapter in the book and space forbids a careful review of those devoted to the clinical forms of phthisis, its complications, prognosis, etc.

As would be expected from the author's view of phthisiogenesis, the space devoted to prophylaxis is very significant and is necessarily viewed from the standpoint of prophylaxis in children and prophylaxis in the adult.

The chapters devoted to treatment are on the whole disappointing. Differences regarding the symptomatic treatment of tuberculosis and its complications one expects in different individuals. In a work however, where individualism in treatment is emphasized to the extent that it is in Dr. Fishberg's book one is disappointed at seeing the pessimistic attitude of the author toward institutional treatment. There is no place where more thorough individualism can be applied than in well conducted sanatoria and in Dr. Fishberg's criticism, that in institutions patients are treated too much en masse, it would seem that he has been unfortunate in the sanatoria he has investigated. His criticism may largely hold in municipal, state and philanthropic institutions, but it certainly does not prevail in well conducted private institutions under good scientific control. The reviewer decidedly dissents from the author in his statement that we are apt to lose that objectivity in our attitude toward these patients by seeing them too frequently. The reverse is true.

However, this chapter on institutional treatment will certainly afford cause for reflection on the

part of those enthusiasts who give to the sanatorium altogether too important a place as a factor in the tuberculosis campaign. It is certainly the most expensive weapon in the campaign, probably the least effective.

It is to be regretted that the author handles the subject of specific treatment in tuberculosis in a flippant manner, utterly out of keeping with the general excellence of the book. Of course one can scarcely expect other results where directions for the use of tuberculin are as loosely given and where the author practically recommends the use of serial dilutions put up by pharmaceutical houses. This particular chapter contains many misstatements of facts. For instance, the author states that tuberculin is given at present by most who use this agent for its psychic effects. In reading this chapter one can not help thinking of the statement of Sahli, who with his wealth of clinical experience and his keen analytical mind, stated that "while blind enthusiasm for tuberculin treatment can hardly be laid to my charge, I honestly believe that it is the best weapon of modern times in the fight against tuberculosis."

The chapter on artificial pneumothorax is well written without boring the reader with too much of the historical. His attitude toward this procedure is conservative in marked and relieving contrast to the tendency altogether too prevalent nowadays of compressing all cases, regardless of whether they are unilateral or not, where the credulity of the patient will admit of such treatment. The author states that hardly five per cent. of cases are suitable for pneumothorax treatment. These figures are probably accurate.

Climatic treatment deserves comment. The attitude of the author is sane and this chapter should be read by all who have access to the book for we still find men, happily less frequently, in all communities, who worship this fetish, ignoring the more important factors in treatment.

The book is well printed; the subjects are well arranged and the text is profusely illustrated. The book should find a useful place in the library of every practitioner.

G. H. E.

WARNING.

We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the county. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals, and for medical books published by various firms. He usually represents himself as a student, working his way through college, and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas, and F. C. Schneider, and he usually gives a receipt bearing the heading of some society, or association, such as United Students' Aid Society, the Alumni Educational League, the American Association for Education, etc.

The description given of this swindler is: Young man of the Jewish type, rather slender, with very dark hair combed straight back, and shows his teeth plainly when talking.

The whole scheme is a fraud. The societies mentioned do not exist. The idea is to collect money by offering special discounts and prices on medical books and journals, and skip with the money.

This young man does not represent W. B. Saunders Company, whose name he frequently uses. He is a fraudulent subscription agent, and physicians generally should be on the lookout for him.

STATE DESTROYS MILLION POUNDS OF FOOD.

Nearly a million pounds of foodstuffs, unfit for human consumption, have been condemned and destroyed by the California State Board of Health during the past four months. Some of these products were decayed, others were infested with

worms; all were putrid and unfit for eating. Professor E. J. Lea, director of the Board's Bureau of Foods and Drugs, states that these foodstuffs which have been destroyed consist of 437 tons of condiments, chiefly catsup made from spoiled tomatoes, nearly seven tons of decomposed eggs, six tons of fruits, five tons of poultry and eight tons of miscellaneous food supplies.

The destruction of the catsup alone has undoubtedly prevented many cases of illness, and unscrupulous dealers are now unable to procure those foodstuffs that are unfit for human consumption. Many retailers have been buying such products at very low prices, and in turn they have been selling to the general public at low rates. This action of the Board protects the honest dealer who is endeavoring to supply the public with wholesome foods at fair values, from the competition of the dealer who is able to sell products at low rates because they are spoiled or adulterated.

Through the removal of these five hundred tons of foodstuffs from the markets of the state, not only has the health of the public been safeguarded, but unscrupulous dealers have been taught that such foods can not be sold to citizens of California.

CARELESS AUTOMOBILISTS.

Regardless of the enormous amounts of money expended by the railroads of California in furnishing protection at grade crossings and the earnest effort to educate the public, drivers of vehicles and pedestrians insist upon creating unnecessary danger and taking foolhardy chances. This was brought out in the State Railroad Commission's recent state wide investigation of the grade crossing problem when the carriers gave the Commission a list of accidents that are all too common. From the list was excluded the joy-rider and the intoxicated driver.

Here are a few samples chosen at random:

December 29, 1915, 2:45 a. m. Driver of automobile disregarded train and its warning and ringing crossing bell, and drove into side of locomotive. At the moment of accident, driver of machine was engaged in filling and lighting his pipe. One person was killed.

August 17, 1915, during daylight hours. Automobile driver with several passengers ignored all warnings, took no precautions whatsoever and at high speed drove automobile into side of train. Four persons killed and two injured. The automobile was in jitney service.

June 2, 1915 11:45 a. m. Driver of an auto truck descending a three per cent. grade admitted seeing the train while he was 1-4 mile from crossing. There were several other vehicles standing at the crossing waiting for train to pass, but the driver of this auto truck drove around those vehicles on to track in front of train and then stalled his motor. Resulted in property damage of \$5000.

April 17, 1915, 5:20 p. m. An automobile occupied by three ladies ignored train and its warning and the violent whistling of the locomotive, drove around a number of other standing vehicles up on to track in front of train and was struck. At this crossing there is a clear view of approaching trains for a distance of two miles. Three persons injured and automobile completely demolished.

March 5, 1915, 7:24 p. m. Automobile ignored train and its warning, ignored crossing watchman's warning, passed around standing street car and teams which were waiting for train to pass, and ran squarely into side of railroad train. Occupant of this automobile had made a deal to sell the machine in another city and ignoring all danger, was rushing to keep his engagement.

The accident fortunately resulted only in property damage to the automobile.

POSTAL SAVINGS.

Larger postal savings deposits will now be accepted at the postoffice. This is made possible by an important amendment to the Postal Savings Act just approved by President Wilson. A postal savings depositor may now have an account amounting to \$1,000 upon which interest will be paid. Formerly \$500 was the maximum amount he could have to his credit. This enlargement of postal savings facilities will be very gratifying to thousands of depositors who have already reached the old \$500 limit and are anxious to entrust more of their savings to Uncle Sam. Another feature of the amendment that will avoid further embarrassment to the public and to postal officials is the doing away with the limit on the amount that could be accepted from a depositor monthly. Under the old law only \$100 could be deposited in a calendar month. The amendment abolishes this restriction. While the Postal Savings System has already proved a signal success, as is shown by the fact that more than half a million depositors have over eighty million dollars standing to their credit, still it has fallen short of meeting the full demands of the public because of the restrictions which have now been eliminated. Postmaster-General Burleson and Third Assistant Postmaster-General Dockery have been tireless in their efforts to secure a modification of the limitations, and the new liberalizing legislation is particularly gratifying to them.

SOCIAL INSURANCE.

The question of sickness insurance in this state opens up such a large field for study, as to make it imperative for us all to cooperate, in so far as possible in an intensive investigation of the problems involved. It is very important that your committee, representing as it does, the medical profession of the state, should post itself as to all phases of the study, and not concern itself alone with the attitude of the profession toward any scheme for sickness insurance.

It is with this view in mind that I shall attempt to furnish your committee from time to time with what information we are able to gather here in San Francisco. A few months ago, a group of us, interested in Social Insurance, at the suggestion of a member of the Social Insurance Commission of the State of California, decided to hold weekly evening meetings, so that we could take up and discuss these matters.

The Commonwealth Club of California has likewise organized a study committee. It meets every Friday afternoon from 4 to 6 P. M. On it, we find employers, employees, staunch representatives of labor, insurance men, statisticians, physicians. They have mapped out a rather ambitious program for study.

1. Present conditions in California.
 - (a.) Scope not covered by existing laws.
 - (b.) Rate of sickness and non-industrial accidents.
 - (c.) Financial loss.
 - (d.) What employers do.
 - (e.) What employees do.
 - (f.) What the charities do.
2. Health Insurance for California,
 - (a.) Existing laws—all countries.
 - (b.) Proposed laws.
 - (c.) Applicability to California conditions.
 - (d.) To whom applicable.
3. Health Insurance and the State.
 - (a.) Constitutionality.
 - (b.) Policy—economic and social.
 - (c.) Relation of Compensation laws to Health Insurance.
4. Relation of Medical Profession to Health Insurance.
5. Attitude of Employers to Health Insurance.
6. Attitude of Employees to Health Insurance.

7. Attitude of Independent Workers and Unemployed.
8. Attitude of Present Insurance Carriers.
9. Recommendations.

Many interesting questions have been brought out at these meetings.

(1.) As to the relation of the Medical Profession to health insurance. Here the article published in the N. Y. Med. J. Feby. 1916, and reprinted in our journal, May 1916, served as the text. (a) The Medical Profession recognize the need for sickness insurance. (b) There is bound to be opposition to it, unless its administration is such as to afford the Physician proper remuneration for his work. (c) Industrial Accident Insurance has possibly increased the doctor's incomes, as all bills are collectible, even though on a schedule less than the ordinary fee. (d) It is possible that under Sickness Insurance laws, there would be more demand for medical services, and even admitting that re-adjustments in the profession might have to follow, there would be work for everybody. (e) The question as to choice of physicians is of course of great importance, and offers opportunity for a great diversity of opinions.

(2.) Statistics so far secured, show that the average income of selected wage earners is not over \$75 per month, perhaps nearer \$65. (b) For a family of five, \$30 would be the average minimum required for food. (c) For such a family the average minimum rent would be \$12 to \$15. (d) It is therefore clear that there is no margin for substantial saving, and any family in which the wage earner has a period of sickness of several months is doomed to financial wreck. (e) Compulsory Insurance for those with incomes under \$750. (?) \$1200 (?) necessary.

(3.) In spite of above, organized labor objects to compulsory sickness insurance. (a) Because it would lead to examination of employees, with possibly the refusal of employment to those not quite up to physical standards. (b) Because it is class legislation. (c) Because it would lead to invasion of homes of employees. (d) Because it is un-American; deprives men of right of freedom; of liberty of personal action. (e) Because the only way to help the workmen is to provide a minimum wage, shorter hours, sanitary living and working conditions.

We have thus outlined a bit of the work before us. The following articles and books are recommended for study.

- Social Insurance. I. M. Rubinow.
 Social Insurance. Henry R. Seager.
 Medical Benefit in Germany and Denmark. I. G. Gibbon.
 American Labor Legislation Review, vol. 3, 1913, p. 172.
 American Labor Legislation Review, vol. 6, 1915, p. 1-37.
 Health Insurance—U. S. Public Health Bulletin, No. 76. B. S. Warren.
 Social Insurance in Germany. W. H. Dawson.
 Standards of Sickness Insurance. Journal of Political Economy, vol. 23, Nos. 3, 4 and 5, 1915. I. M. Rubinow.
 Better Doctoring for Less Money. The American Magazine. March and April, 1916. Richard C. Cabot.
 Labor vs. Its Barnacles. Samuel Gompers, American Federationist, April, 1916.
 Social Insurance. Calif. State Med. Journal, May 1916, p. 173.
 British National Insurance Act, 1911. Bulletin U. S. Bureau of Labor, No. 102.
 Sickness and Accident Insurance Law of Switzerland. Bulletin U. S. Bureau of Labor, No. 103.

Medical Examination of Employees. Transactions of the 10th Annual meeting, (1914, p. 33) Nat. Ass'n Study and Prevention Tuberculosis.

NEW SECTIONS.

Acting upon the request of the House of Delegates, the Council has created a section of Obstetrics and Gynecology, with Dr. E. N. Ewer as chairman, to serve until the annual meeting of 1917, and a section of Neurology and Psychiatry, with Dr. A. W. Hoisholt chairman and Dr. J. Ross Moore secretary. Dr. Ewer will appoint the temporary secretary of the Section on Obstetrics upon his return from the East.

ARMY MEDICAL CORPS EXAMINATIONS.

The Surgeon General of the Army announces that preliminary examinations for the appointment of First Lieutenants in the Army Medical Corps will be held on July 17, 1916 and August 14, 1916, at points to be hereafter designated.

Full information concerning these examinations can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as an interne, after graduation. The examinations will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examination, applications must be completed and in possession of the Adjutant General, at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There will be more than one hundred vacancies to be filled after July 1st, when the bill for the reorganization of the Army becomes a law.

WAR DEPARTMENT,

Office of the Surgeon General,
 Washington.

May 17, 1916.

To the Editor,
 California State Journal of Medicine,
 San Francisco, Cal.

Sir:

Owing to the withdrawal of troops from their regular stations for duty on the Mexican border, the War Department has been compelled to abandon the camps of instruction for officers of the Medical Reserve Corps, that were to be held during the coming summer.

I am instructed by the Surgeon General to send you the enclosed draft of a notice regarding examinations for the Army Medical Corps, and to state that he will be pleased to have it appear in the next issue of your journal, or so much of it as you may find space for. The regulations of this department prohibit the publication of such matter as an advertisement, hence the request that it be published as a "notice."

Very respectfully,

ROBT. E. NOBB,
 Major, Medical Corps, U. S. Army.

MEDICINE AND DENTISTRY.

First University Dental School in New York for Columbia.

Realizing the importance of the teeth and mouth infections to systemic disease, the Faculty of the College of Physicians and Surgeons have unanimously voted in favor of the establishment of a dental department, to be connected with the medical school. A committee of prominent dentists of the city have presented plans to the Medical Faculty which have been approved.

The school of dentistry will be closely associated with the medical school and the admission requirements will be the same as the medical. The course will be four years, the first two years the same as those in medicine, thus giving the dental student a thorough knowledge of the fundamental sciences necessary to the practice of a specialty of medicine. At the end of the second year the dental student will give all his time to the study of dental subjects; namely, operative dentistry, prosthetic dentistry, oral surgery and oral pathology, orthodontia, etc., and the more technical part of the work required for the well trained dental surgeon. This new school will be the first university dental school in New York City and the second in the State. It will give the first four-year course of dentistry ever given in the Empire State.

HEALTH EFFICIENCY.

Statement showing total number of physical examinations made by Drs. Tebbe and Tebbe, for the Weed Lumber Company, to date, and list of abnormalities found. Percentages based on total number examined.

	No.	%
Total number examined.....	1,495	
Total having some physical abnormality	694	46.4
Eyes:		
Both subnormal.....	43	2.88
No vision, one eye.....	20	1.34
Poor vision, one eye.....	34	2.27
Poor vision, both eyes.....	33	2.21
Total	130	8.70
Ears:		
Both slightly impaired.....	42	2.81
No hearing, one ear.....	7	.47
Poor hearing, one ear.....	23	1.54
Poor hearing, both ears.....	35	2.34
Total	107	7.16
Hernia:		
Patulous rings,		
Single	141	9.43
Double	100	6.69
Inguinal Rings Giving,		
Cough Impulse,		
Single	98	6.56
Double	85	5.69
Beginning,		
Single	39	2.61
Double	15	1.00
Complete,		
Single	62	4.15
Double	13	.89
Total	553	37.00
Varicocele	60	4.00
Hydrocele	9	.60

THE SAMUEL D. GROSS PRIZE, FIFTEEN HUNDRED DOLLARS.

Essays Will Be Received in Competition for the Prize Until January 1st, 1920.

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize, shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page, it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22nd St., Philadelphia," on or before January 1, 1920.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

WILLIAM J. TAYLOR, M. D.,
JOHN H. JOPSON, M. D.,
EDWARD B. HODGE, M. D.

Trustees.

Philadelphia, March 1st, 1916.

DEATHS.

Coxhead, T. C., Oakland.
Hollister, John Chamberlain, Pasadena.
Elliott, Edw. White, Turlock.
Ulrich, Edw. John, San Jose.
Schacht, B. H., West Point.
Lee, William Ross, Los Angeles.

NEW MEMBERS.

Silliman, John Calvin, Palo Alto.
Brownell, E. E., San Francisco.
Galbraiths, Francis B., San Francisco.
Macdonald, G. Childs, San Francisco.
Curtiss, Charles L., Redlands, Cal.
Burnham, Melvin Paige, San Francisco.
Chancellor, Philip S., Santa Barbara.
Cunnane, Philip John, Santa Barbara.
Huntley, A. C., Cloverdale.
Edgerton, Ambrose E., Stockton.
Griffin, Alonzo P., Tracy.
Todd, E. B., Lodi.
Nutting, Chas. Wilber, Jr., Etna Mills.
Doran, Alexander Vincent, Vallejo.
Bond, Fred. T., Vallejo.
Moodie, Alexander Russel, Redwood City.
Lynch, Wm. Carston, Belmont.
Wintermute, Charles Ellsworth, Saratoga.
Korts, Benjamin Frederick, Oxnard.
Lorimor, John Henry Dow, Hughson.
Armistead, Howell V., Newman.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Harry E. Alderson, M. D.

René Bine, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - - -

Butler Building,

State Journal, - - -

San Francisco.

Official Register, - - -

Telephone Douglas 62

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV AUGUST, 1916

No. 8

EDITORIAL NOTES

PREPAREDNESS

Do you want complete protection against every malicious attack in the way of a suit for damages for alleged malpractice?

If so, read the Editorial notes on this subject in the July Journal—and act upon the advice.

Or write the Secretary, Dr. Philip Mills Jones, for information.

X-RAY PLATES AND NEGLIGENCE.

Some time ago, when the House of Delegates of the State Society wisely made the rule that the Society would not defend a member in an action for damages for alleged malpractice against him, when in the nature of the case an X-ray plate should have been taken and kept and was not so taken and kept, the JOURNAL published some items to the effect that before very long courts would consider it negligence not to take such plates. The truth of that prophecy is being made manifest very rapidly. In a case in Minnesota not very long ago, a judgment of \$2000 was awarded against a physician for negligence in the treatment of a fracture of the leg, between the knee and ankle, and this judgment was sustained by the Supreme Court. In reading over the judgment of the Court, one is very much impressed with the fact that the Court leans to the idea that the failure to take an X-ray plate might justly have been regarded by the jury as an indication of a lack of proper care, skill and judgment in the treatment of the case. In fact, the Court says: "It was not error to permit the questions to the experts in regard to the propriety of taking Roentgenograms. While this was not specifically alleged as a charge of negligence, the complaint contained a general allegation of negligent treatment and the Court thinks this evidence was properly received." There are several other decisions within the last couple of years, all trending in the same general direction, and it is safe to say that within the next few years it will become a recognized rule of law that when injuries to bones are involved and there is possibility or probability of fractures, dislocations and the like, the failure to make and keep X-ray plates will be considered negligence.

Quite recently one of our members here in California was obliged to defend a suit against him at his own expense, because he could not, or would not, offer any explanation of why he had not taken an X-ray plate.

THE VERDICT AGAINST THE A. M. A.

Quite a little inquiry has reached this office in regard to the meaning of the "one cent verdict" against the American Medical Association and in favor of the *Wine of Cardui* people. Judgments of this kind are always somewhat confusing. One of the most celebrated libel suits in this country was that of Henry Ward Beecher against the *Brooklyn Daily Eagle*, a newspaper printed in Brooklyn, N. Y., which published some articles referring disparagingly to Mr. Beecher's personal relations with a woman. The suit attracted a great deal of attention, but the jury brought in a verdict of two cents damages. This was interpreted as meaning that everything the paper said was true, but that it ought not to have said it just the way it did. In this present suit, the whole case turned upon the interpretation of the word *fraudulent*. About as near to a clear idea of what the verdict really means as one can give in ordinary language, is contained in the *Chicago Herald* for Saturday, June 24, 1916, as follows:

THAT ONE-CENT VERDICT.

The one-cent verdict returned by the jury in the Wine of Cardui case against the American Medical Association teases us to thought—as did the six-cent verdict returned some time ago in Colonel Roosevelt's celebrated suit against an editor in Michigan.

Both sides claim it as a victory. The defendant feels that, in view of the large amount demanded, a verdict of one cent is equivalent to a verdict in its favor. The plaintiff, on the other hand, concerned not only with the damages sued for but presumably with the good name and reputation of the preparation, thinks that even a one-cent verdict is a vindication.

As the jury has so far shed no particular light on the psychology responsible for the decision, we must assume that it thought the American Medical Association was wrong but not wrong enough to hurt and that the plaintiff was right but not right enough to help very much.

Incidentally, and irrespective of the merits of this particular case, it is permissible to suggest that the American Medical Association will hardly find its prestige diminished among good citizens by its opposition to the sale of proprietary medicines containing a marked percentage of alcohol.

WHEN YOU SUE AN ESTATE FOR YOUR ACCOUNT.

In considering this little suggestion in regard to the law in the State of California covering matters referred to in the above title, please do not say—"The law is all wrong; it ought to be different!" There is a great sameness about that remark, and it has nothing to do with the case, because whether you like a law or not has nothing to do with the fact that it is the law, and if you intend to live here you have to live under the control of the laws of the state.

In California the law provides that parties, or assignors of parties, to an action against an executor or administrator of the estate of a deceased person, may not testify as to any matter of fact occurring before the death of such deceased person. Now, that means just this: If your patient dies, and the executor or administrator refuses to settle your bill, and you bring suit against him for the amount of the bill, you yourself cannot testify as to the services rendered. You must have some other witness, or some other tangible evidence, in addition to your accounts. Not very long ago, in this state, exactly this situation arose and the doctor got a judgment in the trial court which was reversed and thrown out by the Supreme Court, solely because the doctor introduced no other evidence than his own and his account book. His account was apparently just, and there seemed no reason why it would not have been allowed had he complied with the law.

SOCIAL INSURANCE.

To Members of the State Medical Society:

Dr. I. M. Rubinow, the author of "Social Insurance," who has come to California to assist in the work of the Social Insurance Commission appointed by Governor Johnson, met with the latter commission and with our committee on July 8. Those present besides Dr. Rubinow were Miss Katherine Felton, Mrs. Frances Noel, Mr. George Dunlop, Dr. Flora W. Smith, Miss Barbara Nachtrieb, Drs. Sherman, Reinle, Gundrum, Tucker and Bine representing our committee; Drs. P. M. Jones and Morton Gibbons. That there is a great deal of work to be done, many statistics to be compiled, and much to be discussed, can readily be imagined. This meeting lasted for four hours, and the discussions showed us how few actual facts pertaining to California conditions are now available.

It will be necessary for us in our study of sickness and of health insurance in this state, to get at certain figures. They are not only essential to us for our study; they are essential to you—for your protection should the state eventually decide in favor of social insurance. There is no reason why the same methods should be enforced with health, as have been applied with accident insurance. With the accident compensation the lowest possible premiums are charged, so as to make the scheme attractive to employers. After deducting for administration, cash benefits to the injured, and in the case of private companies, for dividends to stockholders, the question of paying the doctor comes up. He gets what is left.

Now in health insurance, provided we can get the necessary statistics, and provided the profession is reasonable in its attitude, there is no reason why matters cannot be reversed. Let us find out how much doctors now earn, and of this, how much they actually collect. Let us know how much they really deserve, how much they need to live up to professional standards and still put aside enough for old age. Let us also know how much work they can do and do well. Then let us determine how much they should be paid under a scheme of health insurance, and then let actuaries calculate what the rates or premiums should be. If they are satisfactory to the insured, the employers, and the state, well and good; if not—well, it is too bad, but health insurance in this state will not work!

Questionnaires will soon be forwarded to every member of the State Society. It is hoped that answers will be promptly returned.

The interest in social insurance is not purely a medical one, nor a local one. The Commonwealth Club Committee meets every Friday from 4 to 6 p. m. On Saturday, July 15th, at its usual weekly luncheon, Dr. I. M. Rubinow addressed the Club in open meeting. An invitation to attend the luncheon was extended to the San Francisco County Medical Society; some sixty or more attended. We had hoped that more doctors would come. The notices were sent a bit too late; this, perhaps, explains the apparent apathy of the profession.

In Los Angeles a large group has been recently organized to study social insurance somewhat along the lines already started in San Francisco. In Los Angeles Mr. Roy V. Reppy, a very able attorney connected with the County Counsel's office, is leader of the group. It might be well if every little community had its little study group.

Dr. McCombs of New York and recently in San Francisco helping make a survey at the request of the Real Estate Board, made the statement that when a bill to establish health insurance was introduced in the New York legislature, the majority of the medical profession had never heard the term, or if they had, they did not know its meaning.

In September the San Francisco County Medical Society will devote an entire meeting to this subject. Dr. I. M. Rubinow will address us and we hope that he will not be obliged to discuss elementary matters. Dr. Lambert's report in *J. A. M. A.*, p. 1951, *et seq.*, No. 25, June 17, 1916, should be read by every member of the State Society. Further notice of the September meeting will be given in these columns.

RENÉ BINE.

WHAT WE DO NOT KNOW.

It is interesting every now and then, to stop and contrast our present knowledge of disease with views held some few years back. The etiology of aneurisms, which curiously enough have been very frequent in San Francisco, has long afforded an excellent field for speculation. A short time ago we came across a paper entitled: "The Predisposing Causes of Aneurism. A Statistical Inquiry," by John B. Hamilton, M. D., Supervising Surgeon-General of the U. S. Marine Hospital Service, Prof. of Surgery in University of Georgetown, Washington, D. C., *J. Am. Med. Sciences*, p. 386, Oct. 1885.

Hamilton starts with a very interesting historical review of the subject. He quotes the "Father of English Surgery" as believing that aneurisms were due to the impetuosity of the blood itself or to its character—too sharp, or thin, eroding the vessel or being highly fermented and bursting through. He mentions some who believe that syphilis or alcohol play an important role, and as many others, who to their own satisfaction, almost prove the contrary fact. He also quotes curious statistics as to the possible influence of nationality, occupation, complexion and social condition. He concludes that the only constant element among all the alleged causes of aneurism is that of climate; that neither syphilis nor alcoholism, nor occupation, nor heat alone, appears to have an appreciable influence on the causation of this disease. He says: "As to how far the influence of diet may extend in the production of aneurism, I have been unable to form any conclusion, but it is possible that certain kinds of foods may have a powerful influence."

He attributed the frequency of aneurisms in California in the early days to the fact that many

of the victims had come from cold northern climes to live in a mild, languid temperature. Retaining their old habits of life and living under new conditions, eating much meat, living on stimulants and excitement probably made them subject to diseases of the circulatory organs. But the climate gets most of the blame!

Compare this with the modern view that aneurisms are mainly due to syphilis, alcohol, hard work, lead poisoning, tobacco, gout, nephritis and especially the infectious diseases, and one can see how a few years produces changes of opinions.

R. B.

THE PREPAREDNESS PARADE.

This editorial comment is necessarily written before the occurrence of the much-advertised Preparedness Parade, July 22d, and in fact, as the parade is being held, this part of the *JOURNAL* is on the press. However, speaking from a future view of what is going on, it seems very probable that the parade will consist of very large numbers of persons, expressing emphatically their idea that this country should not close its eyes to the possibility of future trouble. And this is wise.

There are innumerable bromidic remarks to support this point of view, as for instance:

In time of peace prepare for war.

God helps the country with the heaviest guns.

Heaven helps the man who helps himself.

Pray to God, and keep your powder dry!

From these few quotations from the dim and distant past, it becomes evident that the idea of preparedness is not altogether new.

FOURTH OF JULY.

It is curiously interesting to notice how many papers comment upon the desirability of continuing a sane Fourth of July, thus eliminating a large number of deaths which formerly accompanied that joyous day, or immediately followed it, and how few of them make any note of the fact that the whole movement originated with, and was prosecuted by, the American Medical Association. Going a little further than this, it may be said with conservative justice that the idea and its prosecution originated with Dr. George H. Simmons, Editor of the *Journal of the American Medical Association*. The people of this country have very much to be thankful to the American Medical Association for, and not the least of these things is the campaign against ruthless killing on the Fourth of July.

In 1903 there were 449 persons injured, including 466 killed, and with 406 deaths from lockjaw. Last year there were only 1165 injuries, with only one death from lockjaw. It would seem to a calm and unprejudiced observer that the people of this country ought to be somewhat grateful for cutting off these four hundred odd deaths from lockjaw each year.

FEES UNDER THE INDUSTRIAL ACCIDENT LAW.

A letter has been received from a distinguished member of the Society in Southern California, asking the JOURNAL to publish some facts in regard to the Industrial Accident Law and the relation of the physician to it, and its provisions in the matter of fees. Many inquiries come in from time to time on different points directly connected with this, and therefore the following facts are set forth for your information and guidance:

The law makes it the duty of the employer to furnish medical and surgical attention to an injured employee, and therefore it further permits the employer to hire any physician or surgeon he chooses. The injured employee has nothing whatever to say in regard to what physician shall attend him. If the employer has transferred his personal risk to another by taking out insurance, the insurance company is then substituted for the employer in the matter of providing medical and surgical attention. In other words, the insurance company says what doctor shall treat the injured employee. If an employee is injured and goes to some physician of his own volition and choosing, the employer, or the insurance company, cannot be compelled to pay that physician for anything more than the emergency treatment required by the necessities of the case. In every instance where an injured employee goes to you for professional services, you should find out from him immediately the name of his employer and notify such employer, and also find out from the employer whether he is insured and if so notify the insurance company and receive their authorization to treat the patient. Quite a number of complaints have come in that members, after having treated injured persons for a longer or shorter period, have been notified by the insurance company that as the treatment was unauthorized, the company would not be responsible for the bill.

The Industrial Accident Commission has a limited jurisdiction over matters of dispute arising in connection with fees, but its jurisdiction does not in any degree extend to any case where the parties involved have not complied with the law. If you do not notify the employer or the insurance company and get the consent of such employer or such company, you have not complied with the law and you do not come within the jurisdiction of the Commission.

Complaint has also reached us that there is a degree of uncertainty owing to the fact that the Commission has changed its ruling from time to time. This is perfectly true and must necessarily be true, if we stop to think that the whole matter is new and that everyone is without experience in connection with it. Furthermore, under the Roseberry Act, and under the Act of 1913, and up to August 1, 1915, the Commission had no jurisdiction whatever in the matter of fees.

There are a certain number of cases that come to our attention where the doctor complains that the insurance company is not willing to pay him as much as he thinks his services are worth. As a result of experience, we find that in practically

every one of these cases, the physician has not fully explained the circumstances to the company. For instance, if an examination has taken a very much longer period than would ordinarily be the case, or if what would be generally a simple matter is for some reason a complicated one requiring more time, more work, etc., if these matters are explained to the company, they are nearly always willing to pay reasonable bills.

INFANTILE PARALYSIS.

The following item on the subject of poliomyelitis is issued by the State Board of Health, and is without apology given in connection with this editorial note. Elsewhere in the JOURNAL will be found an outline of an article published by the *Journal of the American Medical Association* on the same subject.

Every effort to prevent the introduction of infantile paralysis into California is being exerted by the California State Board of Health. In order to learn if any cases or contacts are being brought into the state from the east, where the disease is now epidemic, inspectors of all transcontinental passenger trains have been stationed at points along the border lines where the railroads enter California. Without the co-operation of citizens, however, this procedure is of small importance.

Every suspected case of illness in children, particularly intestinal or digestive disturbances, should be reported immediately to the local health officer for investigation. Children should not be allowed to come into contact with such persons, who are ill, whether they are children or adults.

The diagnosis of infantile paralysis is oftentimes not determined until the paralysis appears. Since many cases begin with the acute digestive or intestinal disturbances, followed by high fever, special attention should be paid to disorders of this sort.

While comparatively few cases of the disease have occurred in California during the past few years, several epidemics of magnitude have occurred in the state. At the beginning of July there were only four cases in California and these were widely scattered.

The California State Board of Health does not feel that there is any occasion for alarm, but it desires to emphasize the importance of taking every possible preventive measure that may be available, in order that California may not be visited with a devastating epidemic of the disease.

ETIOLOGY OF OZENA.

The contribution of Horn and Victors to the etiology of Ozena presented at the last meeting of the State Society, can not, on account of its length, be published in full in this JOURNAL. The work of previous investigators was restudied and certain new facts were brought out by them which seem to substantiate the claim of Perez that the *Coccobacillus foetidus ozenae* is the cause

of ozena. Other new and important facts were added relative to the biology of this organism. Most important of all is the discovery that the Perez bacillus, hitherto described as non-motile, is a distinctly motile organism, and this fact has greatly simplified the technic of isolation.

The relationship of the *Bacillus bronchisepticus*, the etiologic organism of distemper in dogs, to the Perez bacillus, has, by means of complement fixation phenomenon been definitely proven. This fact and certain other important morphological observations have led these investigators to suggest that the Perez bacillus be now definitely placed with the *Bronchisepticus* group and that the more descriptive title of *Bacillus rhinosepticus* be used.

From a practical standpoint the most important part of the paper was the results of treatment. Vaccines have been prepared and studied in 71 cases with very encouraging results. In many cases, after four to six injections, the odor and crusts completely disappeared. The question of a permanent cure is the question of the ultimate efficiency of vaccine therapy. The only claim that the authors make is that they have in their vaccine, a more efficient method of treatment than any hitherto proposed.

The full text of this paper will appear in the forthcoming issue of the *Annals of Otology*.

THE "SCIENTIFIC" AMERICAN.

On a previous occasion we referred to the outpourings of a gentleman by the name of Cyrus L. Topliff (parenthetically, one cannot but wonder if the name is not wrong, and if instead of being Topliff it should be Topnut!) whose card states a connection with the *Scientific American*, but whose lucubrations are, to say the least, peculiar. Quite recently we have received from him a circular entitled "The Cancer Problem," with a little digest of it for hasty editorial use. The following is the digest of Mr. Topliff's remarks, addressed largely to the medical profession and which, we are quite certain, our readers will find entertaining if not amusing. One wonders, sort of casually, whether Mr. Topliff is any relation to the late Mrs. Eddy:

"This brief article contains all that is officially known about cancer, up to the present time.

"It is intended as a suggestion to physicians, and others, to change their present line of thought in regard to this disease, and make a careful study of the mind, and its relations with the body.

"If fear, worry, hate, spite, jealousy, and all irritating thoughts, were entirely eliminated from the mind, then cancer, and all inflammatory forms of disease, would probably not develop in the body; and cases where the disease is already present, if not too far advanced, could, no doubt, be cured.

"If people could be led to think on these lines, more curative results would follow, not only in the treatment of cancer, but in all other forms of disease."

ADVERTISING.

Fifteen or more years ago, we began debating the subject of proper and improper advertising. Continuously from November, 1902, the claim was made by this JOURNAL and its Editor that there is not only a moral but a legal responsibility attaching to advertising things which are either fraudulent in themselves, improperly advertised, or advertised with an intent to get money in illegitimate ways, or to sell things which the purchaser would not or might not be able to use, or which would be worthless or without benefit to him.

Quite recently the Supreme Court of the United States has finally decided this question in practically exactly this way. It holds that even though the article sold may be actually worth the price to be obtained for it, still it might be so advertised as to work a fraud or injury upon the purchaser. In part the decision says: "An article alone is not necessarily the inducement and compensation for its purchase. It is in the use to which it may be put, the purpose it may serve; and there is deception and fraud when the article is not of the character or kind represented and hence does not serve the purpose." A reasonable construction of this decision will undoubtedly be very far reaching in its application to certain forms of patent medicines, cancer cures, and the like. It reverses the old doctrine of *caveat emptor* (let him who buys take care of himself) and substitutes for it *caveat vendor* (let him who sells be careful).

THE HARRISON LAW.

Considerable discussion and not a little inquiry has been addressed to us in regard to a recent decision of the Supreme Court on one phase of the Harrison Narcotic Law. The case decided by the Supreme Court was the *United States vs. Jin Fuey Mor*. The *Journal of the American Medical Association* has referred to this decision two or three times; in the issues for June 17 and 24, and July 1, 1916, will be found items relating to it. In brief it may be said that the decision does not in any way alter the relations of the medical profession to the Harrison Law. The decision is merely to the effect that persons not mentioned in the law may have in their possession quantities of the proscribed drugs. To this extent it decreases the usefulness of the law, because it removes from the jurisdiction of that particular law the very class which it was most desired to reach. The Supreme Court had a hard problem to settle. It is notoriously a fact that the passage of this law by Congress on the basis of an act for the purpose of raising revenue, was a cheerful fiction, but it was the only basis on which Congress could enact such a law. The Supreme Court could not consider this as a fiction, but was compelled to consider the law as one passed by Congress for the purpose of raising revenue and therefore applying only to certain specified classes of citizens.

HEALTH INSURANCE.

In response to public interest in health insurance the Massachusetts Legislature has created a commission to study social insurance with special reference to sickness. The state department of health and the bureau of statistics are directed to co-operate with the commission of nine members which will prepare a report and recommend the form of legislation to be introduced in January, 1917. California has a similar state commission already at work on this problem which is attracting wide attention since the introduction this year of bills for health insurance in Massachusetts, New York and New Jersey. Proponents of this legislation believe it will bring about a movement for "health first" comparable to the safety first campaign which followed workmen's compensation for accidents.

DOCTOR GEORGE L. PAINTER.

After the JOURNAL was entirely made up, came the inexpressibly sad news of the sudden and violent death of Doctor George L. Painter of San Francisco, a more extended notice of whose life and death will appear in a subsequent issue of the JOURNAL.

DOCTOR CORNELIUS VAN ZWALENBURG.

In May, just as he was about to leave Riverside for San Francisco to attend a meeting of the Council of the State Medical Society, Doctor Van Zwalenburg tripped, fell down stairs and suffered a fracture of the neck of the femur. He naturally has been confined to the hospital since that date, but the last reports were to the effect that he was doing very nicely and would soon be around.

IMPORTANT

**LOOK OVER
THE ADVERTISING PAGES
IN
YOUR STATE JOURNAL
BEFORE MAKING
A PURCHASE ELSEWHERE**

**PATRONIZE THOSE
WHO PATRONIZE YOUR
JOURNAL**

ORIGINAL ARTICLES**THE PASSING OF THE BONE PLATE.**

By P. S. CAMPICHE, M. D., M. R. C. S., (Eng.),
F. A. C. S., San Francisco.

In a previous paper I have emphatically protested against wholesale and indiscriminate operations in so many cases of fracture that would do much better if left alone, and have raised my voice especially against the wanton use of the bone plate.

It is truly unfortunate that, in being so far from the great centers of learning of the East and of Europe, almost in fact at the end of the world, we lose the proper perspective of things and acquire instead a distorted view of their proportions, too often accepting any new fad as if it were gospel and overlooking the fact that, in other places, properly applied conservative methods still yield good results in the vast majority of cases. We have been making the same mistake as the man who hearing so much every day of aviation in the present war, believes that modern armies are composed solely of airmen and that aerial combat is the whole thing in modern tactics. But let us remember that not one per cent. of Eastern or European surgeons would indorse the indications that some lax and easy men find for plating each and every fracture they do not know how to reduce otherwise. The gullibility of the many for anything that is well advertised, combined with a craze for novelty and a desire for publicity, seems to be the chief factor responsible for this vogue of the harmful bone plate.

The matter has now reached a point where we can rightfully demand an answer to the question: Have not many of these operations, purporting to remedy the bad results of the old conservative methods, been unnecessary, and done, on the contrary much more harm than good? No doubt surgeons of the conservative school are to blame for many crooked and shortened limbs; but on the other hand the advocates of operation at all cost are themselves responsible for a good many infections, amputations, and deaths, caused directly by the use of metal plates; such unfortunate results more than outweigh the short-comings of older procedures.

The bone plate has been thoroughly advertised by cleverly written books and imposing articles supplemented by beautiful radiographs that catch the eye of every reader and spur the young and ambitious surgeon to emulate the great deeds of Mr. A. Lane. But to those inclined to criticism it seems that a man of half-truths and unproven facts like Mr. Lane is not a safe guide to be implicitly followed in such things; for an operator who recommends the use of a heavy plate to unite a slender bone, or a man who advocates total colectomy to cure arthritis and tuberculosis of the joints, thus causing a patient to undergo a most serious operation which is based on a very weak and doubtful hypothesis,—such a man, I say, cannot be accepted as a reliable guide. He lacks a sense of proportion; as the French would say, "He uses a siege gun to shoot at sparrows."

In Lane's book little is said of bad results; there it seems taken for granted that the plates always healed-in very nicely, never had to be removed, and that union ensued in all cases. His imitators, or supporters, have not always had the same good luck, unfortunately, although many of us knew what is rigid asepsis even before it was rediscovered by him under the name of Lane technic. Many surgeons, in instances where the plate had healed-in very nicely, by first intention, and without reaction, were surprised to find that after two or three months serous liquid began to ooze from the incision; then the discharge became more purulent, and a sinus persisted, with the inevitable result that the patient became dissatisfied and the surgeon more so; this seems to be the rule now. In fact some of these cases had been well just long enough to be shown in triumph before a medical society, and before the sinus trouble started, though it rarely has happened that the society so favored has been duly informed of the later unfortunate developments of the exhibit.

But now things are changed,—secondary suppuration is no longer concealed. It is boldly accepted as a *mal nécessaire*, and on the operation board of hospitals plate removals are slated every week as natural, legitimate, and perfectly expected measures.

It is gratifying to see how much the supporters of the plating operation have receded from their original intolerant position. At first the plate was the last word and the true panacea in the treatment of these fractures; now it is regarded a make-shift only, to be removed when its work, in assuring union or preparing the way for further procedures, is done. One more backward step and the return to sanity will be complete. And so I ask: Why inflict two operations on the patient when one alone is bad enough for him? Why not use a material that will not only do the work but that can also be allowed to remain in the tissues so that a second operation to bother and endanger the patient becomes unnecessary? Why not discard the bone plate altogether?

To state it boldly, Lane and his followers have lost sight of the fundamental law as to the presence of foreign bodies in our tissues, and which may be stated thus: The asepsis being correct and absolute in each case, a foreign body that is small, smooth and regular, so as to be well imbedded in bone or fascia, that will become, so to say, a part of it, will readily become encapsulated in the tissue surrounding, will never cause irritation, and will never have to be removed. While on the contrary any foreign body that is large or bulky, rugged or irregular, with angles, screws, or other asperities, will not be tolerated, but will be cast off; the bone plate, with its edges, holes, screws, etc., belongs most decidedly to this category.

I have used silver wire in fractures of the jaw, humerus, olecranon, forearm, femur and patella, and have never had to remove it although some has been in place several years now. The great advantage of this simple method is that it avoids any necessity for the second operation, the now classical "plate removal;" furthermore, union is very rapid after the use of silver wire, and there is no delay

in the formation of callus as is often observed in cases where the bone has been plated.

Again, the technic is most simple: a fine pointed drill, a fine-toothed saw, with a few retractors and two bone-holding clamps are all that is necessary; (compare this to the cumbersome armamentarium required in plate cases!) There is hardly a fracture that cannot be treated by this method, if found desirable; even for femur cases where the great difficulty is to correct the overriding of the fragments: this is done, not by a plate, but by a good extension, and when this is successfully obtained silver wire will be just as efficient as a plate to maintain the fragments in apposition. The coaptation of the wired fragments will be perfect if the precaution is taken to indent both bones with the saw, and, if the wire goes through each fragment twice movement cannot possibly take place in any direction whatever.

I do not here touch upon the subject of inlay grafts because this excellent method applies more to cases with delayed union. What I have in mind now is only recent fractures with fragments difficult to maintain in contact.

In conclusion, I repeat again: Let us discard the bone plate and with it let us forget this dark episode in the history of the open treatment of fractures.

CONTRACTURE OF THE VESICAL NECK. DIAGNOSIS AND TREATMENT.*

By ARTHUR B. CECIL, A. B., M. D., Los Angeles.

Perhaps every surgeon has opened the urinary bladder expecting to find an enlarged prostate gland and to his amazement has found that the prostate was not enlarged at all, was moreover, not enucleable, and yet the patient suffered with all the symptoms of prostatic obstruction.

If the internal urethral orifice is investigated it is found to offer firm resistance to the passage of the finger into the posterior urethra and at the region of the internal vesical sphincter a thickened ring is encountered. This is the typical finding in contracture of the vesical neck.

Now it is not my intention to discuss all the types of urinary retention less I detract from the discussion of this particular type of retention.

Symptomatically, these patients present the typical picture of prostatic obstruction. It should be recognized, however, that interference with the normal emptying of the bladder may be due to other pathological changes than an adenomatous or malignant growth in the prostate gland.

Contracture of the vesical neck was first clearly recognized by Guthrie, an English surgeon, in 1830. One is astonished at Guthrie's sagacity and little has been added although much has been detracted since his original contribution. Surgeons have questioned the existence of the type of obstruction which Guthrie described, and it is only within very recent years, one might almost say months, that the attention of genito-urinary surgeons has centered upon definitely placing

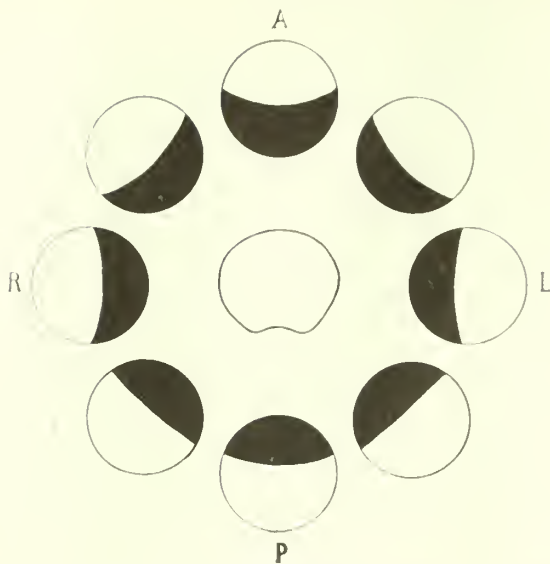


Diagram I.
Normal Picture of the Prostatic Orifice.

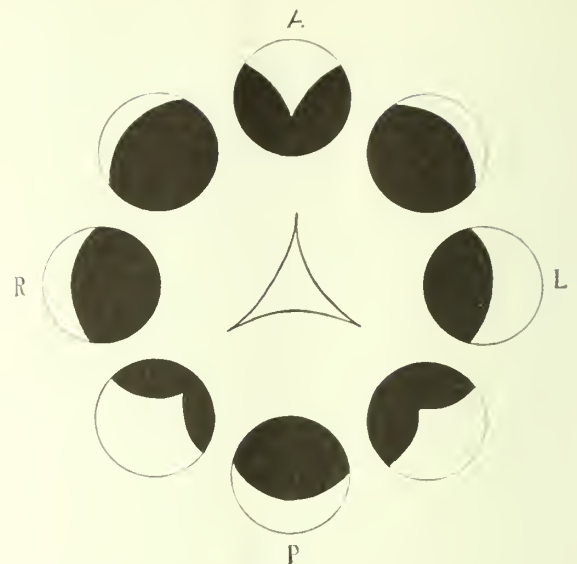


Diagram II.
Cystoscopic Picture of Bilateral-Median Hypertrophy.

before the profession the importance of bearing in mind this type of obstruction to urination. At the meeting of the American Urological Association, held in Baltimore in 1915, many of the papers read before the society dealt with just this particular type of obstruction.

In America, Young, Chetwood, and Keyes have almost been alone in vigorously calling attention to contracture of the vesical neck.

This condition is often confused with prostatic hypertrophy, because, in both conditions the symptoms produced are not dependent upon the changes in the prostate gland, but upon the

interference with the normal emptying of the bladder.

While contracture of the vesical neck may occur at an earlier age than an adenomatous growth in the prostate is ever encountered, it is true that in the large majority of cases the age of the patient neither rules in nor rules out one condition or the other. In Young's series of cases of contracture of the vesical neck, two occurred before the age of thirty and I have personally operated one case eighty-four years of age.

As a rule the onset of symptoms is gradual.

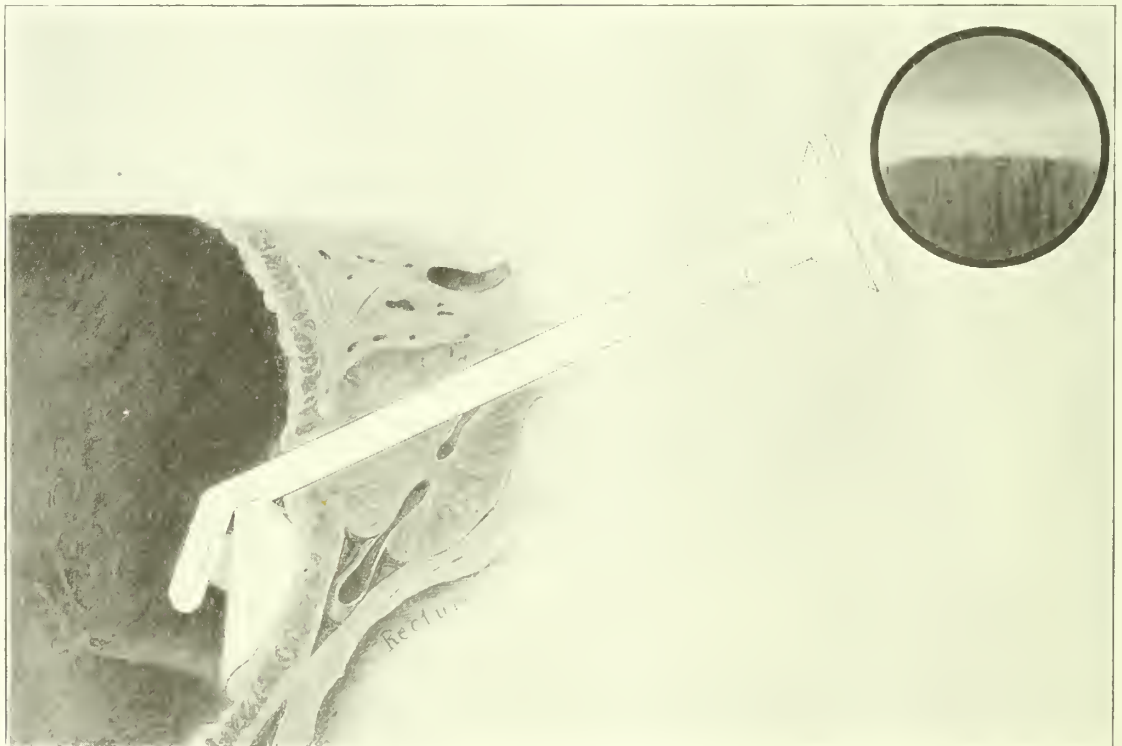


Diagram III.
Showing Cystoscopic Picture Seen Posteriorly in Bar Formation. Note the Thickening of the Interureteric Band and the Partially Obscured View of the Trigone by the Raised Tissue About the Internal Urethral Orifice. Cut Drawn from an Actual Case.



Diagram IV.
Palpation of the Thickened Band About the Internal Urethral Orifice with
Cystoscope in the Urethra.

Many men go on for years feeling that little or nothing is the matter with them. At first there is only a small amount of obstruction to the urinary outflow and the bladder wall hypertrophies sufficiently to overcome this, but as time goes on the patient notices a slight difficulty in emptying the bladder, or in starting the urinary stream, and soon has to get up at night to urinate and in the morning after urinating he again very quickly has a desire to urinate and so on for several times until he has a sense of relief.

As the obstruction increases the bladder wall has more and more difficulty in overcoming it and sooner or later is unable to completely empty itself, resulting in retention of urine in the bladder. With the retention of urine in the bladder its true capacity is decreased and urination becomes more and more frequent.

With the onset of difficulty in emptying the bladder begins the deteriorating influence of this retention on the kidneys and thereby on the general health, and in fact, some cases do not

complain at all of their urinary apparatus but are particularly concerned with loss of appetite and gastro-intestinal disturbances, so that instead of consulting a genito-urinary specialist often seek help from the internist. The symptoms of failing health due to retention of urine are too well-known for description; the drowsiness, the headache, the gastro-intestinal disturbances, the sense of failing health, and later thirst at night, are all well recognized.

Pain is a variable feature and dull aching in the suprapubic region is often complained of or pain low down in the sacro-iliac region. At times the pain is the only symptom complained of and the contracted bladder, or residual urine, and evidences of obstruction are found in routine urological examination.

With the bladder incompletely emptying itself, the retained urine and the congested condition offers a splendid medium for the growth of bacteria.

Infection of the kidney adds additional danger

to the treatment of any case of obstruction to urination and may occur at any time, but at present in considering the symptoms infection perhaps only brings about more urgent urination or burning urination. It is well recognized that most infections of the kidney are to the patient silent infections.

While hematuria perhaps does not occur in contracture of the bladder neck or from this cause alone, in benign hypertrophy of the prostate is a common occurrence and contrary to the general belief perhaps occurs earlier and more frequently in benign growths of the prostate gland than in cancer of the prostate. In brief then it may be considered that there is little difference between the symptoms complained of in contracture of the vesical neck and in other types of prostatic obstruction. It may occur perhaps at an earlier age, pain is more frequently encountered and hematuria as a rule is absent but none of these points are of any great diagnostic significance. The diagnosis of contracture of the vesical neck must depend upon more definite methods of precision.

What little attention has been given by the surgical world in general to the question of contracture of the vesical neck has been principally limited to insisting upon the condition as a clinical entity. Practically nothing has been written on the preoperative diagnosis.

It is my purpose in presenting this paper to call attention to certain features of urological examination which I believe make a differential diagnosis of contracture of the vesical neck a definite certainty. Before taking up these points in diagnosis it might be well to review the conditions which have so often confused.

In the first place does the urinary bladder ever become incapable of emptying itself on account of lack of tone of the bladder wall, independent of well recognized nerve lesions, in other words, is retention of urine ever due to a simple weakness, or atony of the Detrusor muscle? If there ever exists an atonic paralysis of the Detrusor muscle and a paralysis limited to that muscle independent of well recognized nerve lesions, such as cerebro-spinal syphilis, it must be an extremely rare condition, in fact, so rare as to make its existence doubtful.

In 1910, under the title, "Atony of the bladder without obstruction or signs of organic nerve disease," Thompson Walker presented an interesting report of twelve cases. He believed that he had ruled out organic nerve disease by the time which he had had these cases under observation and by his physical findings and he attributed their retention of urine to some unknown disease of the sympathetic nerve center which according to Goltz controls the mechanism of urination. It would lead us too far astray to discuss these cases, but it is rather suspected that with the recent wide application of the Wassermann test to the study of the spinal fluid very little in the future will be heard of the atonic bladder. It must be recognized, however, that

a retention of urine may be the only feature of cerebro spinal syphilis.

Undoubtedly one meets very rarely with curious types of retention of urine which do not present any outspoken nerve lesions and who apparently have no mechanical obstruction to urination. These cases may be called reflex retentions, in as much as, they seem to be due to spasms of the sphincter muscle or inability to relax these muscles excited by some pathological changes in the nearby annexia, seminal vesicles etc. These cases are quite rare and the three which I have seen did not show trabeculation of the bladder and were rather unusual in that there would be periods of entire freedom from retention of urine and other periods of sudden complete painful retention. The question of reflex retention should therefore be borne in mind.

Before taking up the diagnosis of contracture of the vesical neck let it be said at the outset that the prostate is oftentimes not enlarged at all, is frequently of normal size or smaller than normal when examined per-rectum, and the contracture or stricture, as it has been termed, does not offer resistance to the passage of instruments through the urethra. Large sounds can be passed into the bladder with ease. I have specifically mentioned these two factors because I believe them to have been the principal stumbling blocks in the diagnosis of contracture of the vesical neck. The fact that there is no apparent enlargement of the prostate by the rectum and no bulging into the bladder upon cystoscopic examination has deceived urologists as to mechanical obstruction due to the prostate and the fact that large sounds can be passed has deceived the surgeon, for how could there be a stricture?

It has been noted then that the prostate is not enlarged per-rectum and without going into details of well recognized signs of lack of the ability of the Detrusor muscle to overcome obstruction in the urinary channel, such as, residual urine, the bladder capacity, etc., it is noted that a cystoscope or sound will pass readily into the bladder without any sensation whatsoever, as a rule, of meeting obstruction.

It is particularly with the cystoscopic picture that I wish to deal. When the patient comes for urological examination the bladder will show more or less trabeculation, the interureteric band is thickened, and these signs alone when found should definitely indicate that the bladder musculature has hypertrophied to overcome resistance and that the patient has some type of obstruction to urination. The trabeculation of hypertrophy is distinctly different from the trabeculation seen in paralytic conditions of the bladder wall, such as tabes.

In a detailed study of the bladder neck the cystoscopic charts devised by Dr. Young of Baltimore, are invaluable. In the first place when one charts what is seen definite things are looked for and not only does it tend toward making a more careful cystoscopic examination but when the examination is over one has a graphic represen-

tation of what was seen, and I wish to use this graphic representation of the cystoscopic picture of the vesical neck to point out a very important diagnostic feature in contracture of the internal urethral orifice.

In using the Nitze's non-corrected indirect cystoscope one obtains an inverted right angle image of what is seen. If then the internal urethral orifice be divided into eight segments, each segment representing an arc of the whole and designated as the anterior view, the left lateral anterior view, the left lateral view, the left lateral posterior view, the posterior view, the right lateral posterior view, the right lateral view, and the right lateral anterior view then the normal prostatic orifice will be found in each view to be represented by a concave segment, except the posterior view which is slightly convex. This is shown in diagram 1.

If all of these views be inverted one obtains a picture of the normal prostatic orifice as shown in diagram 1 (Central figure.) Now suppose just for example one graphically represents a common picture seen in a case of bilateral median hypertrophy of the prostate, a picture such as diagram 2, will be found, and so any type of irregularity at the vesical neck may be charted.

In the irregular enlargements one almost invariably encounters various notches corresponding with the approximation of various lobes and with the filling out by hypertrophies the anterior and lateral views are represented by convex borders instead of concave borders as in the normal.

What then is seen in a uniform contracture of the neck of the bladder? One might say an orifice which is too small but does not differ much from the normal except in being small. All of the views are practically normal as would be expected, but posteriorly a convex border no longer shades directly into the trigone but is represented as a definite fold across it. This corresponds to the hyperplastic tissues which has been raised around the internal urethral orifice and to a pulling up and contraction of the urethral orifice, so that as one withdraws the cystoscope from the interureteric band outward into the urethra the posterior border of the prostate distinctly interrupts what is normally a straight plain. Now this interruption across the posterior field has been designated by Dr. Young as a prostatic bar, because it appears as a bar in many instances running across the trigone. This is well illustrated in diagram 3. The cystoscopic picture shown represents the posterior view.

Before the cystoscope is removed from the bladder another observation should be made, and that is, one should feel the thickness of the prostate on the cystoscope, as shown in Diagram 4. In many instances a firm contracted ring at the neck of the bladder can be made out.

In regard to the treatment, various methods of attack have been used. The Bottini operation perhaps gave its most brilliant results in just this type of obstruction. Contracture of the vesical neck has also been attacked by both median and

perineal prostatectomy and suprapubic prostatectomy. Chetwood has very successfully employed a Galvano Cautery knife, introducing it into the bladder through the prostatic urethra after having previously incised the urethra for this purpose.

In 1913, Dr. Young presented before the Sixty-third Annual Session of the American Medical Association, a new procedure for the treatment of contracture of the vesical neck, now known as the punch operation. As my experience has been almost entirely limited to the use of Young's punch in the treatment of this condition, I will describe this method and the post-operative care of these cases.

The preliminary treatment is not less important in contracture of the vesical neck than in any other type of prostatic obstruction. One must realize that all of these cases may be the subject of very grave renal disorders. Particular attention should therefore be paid to the question of renal function and to the question of lack of the kidneys ability to meet the work which they have had to do, as shown by the blood retention. But while these points are of particular importance a study of them by no means excludes a thorough study of the patient's general condition. So much attention has been paid to them in recent times not only because of their importance but because the tendency was formerly to very greatly neglect the renal condition.

I will not take up the time with describing preliminary treatment for prostatectomy or for the punch operation, suffice it is to say that there is no time limit after drainage has been instituted by a retention catheter or otherwise, when a patient is ready for either procedure. He is ready when his clinical condition shows him to be ready and when all the means at our command prove there is no lurking danger.

The technique of the punch operation is extremely simple. It is usually done under local anesthesia and the operation itself is practically painless.

The urethra is anesthetized by the injection into it of four per cent novocain. It has also been my custom to instill novocain into the posterior urethra with a Keyes Ultzman syringe. After four or five minutes the urethra is washed out with sterile water and a number eighteen Coudé catheter passed into the bladder. The bladder is then washed out with sterile boracic acid solution and filled with this solution when the catheter is withdrawn.

The punch with one of the blades shoved home so that the fenestra is closed is then introduced and pushed well into the bladder. Pressure is then made downward until the punch is about horizontal with the floor. The blade is then partially withdrawn thus opening the fenestra in the punch tube, when the irrigation in the bladder begins to flow out. The tube is then withdrawn until the prostatic border is engaged in the fenestra, and to be sure that one has not engaged the interureteric band the punch

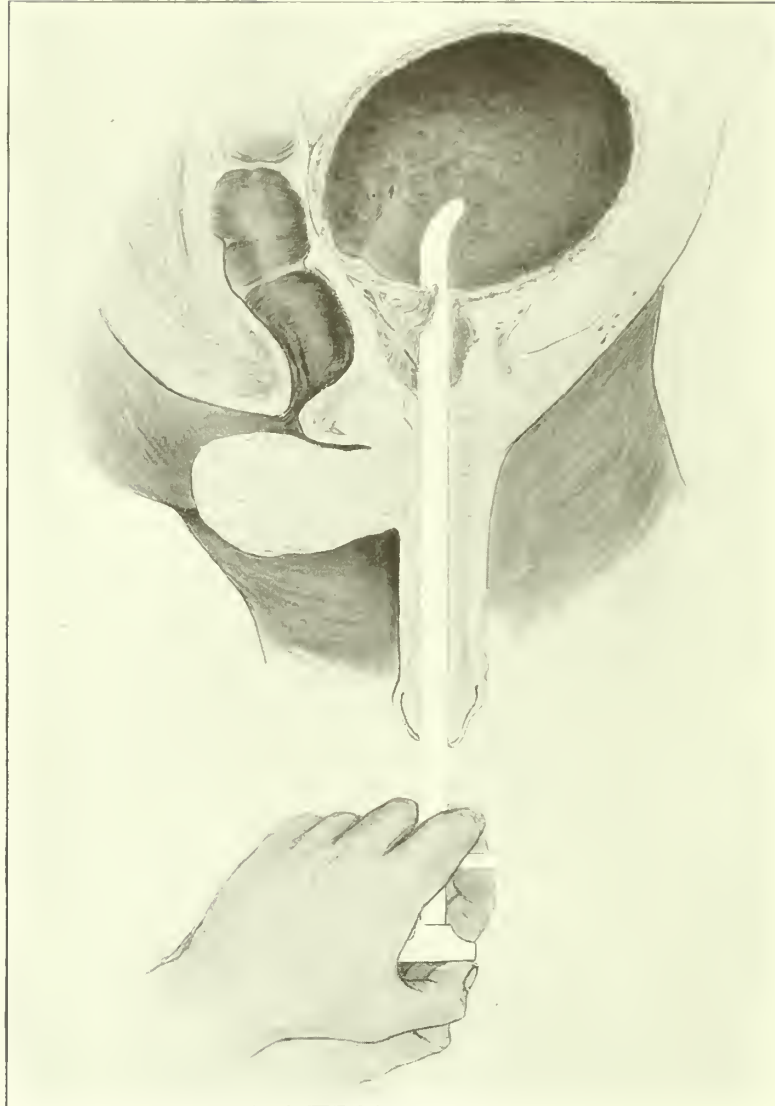


Diagram V.
Young's Punch in Position for Division of the Internal Urethral Orifice.

is rotated ninety degrees and again an attempt made to withdraw it. If it is now at the prostatic orifice it is impossible to withdraw it. It is again rotated until the fenestra is posterior and a firm downward pressure is made on it engaging a good bite of tissue, see Diagram V. The cutting blade is then shoved home.

At times the neck of the bladder cuts almost like cartilage and the cutting movement should be very definite and precise. The piece of tissue cut out is removed from the punch by means of a long pair of forceps when a right and left lateral cut is made. The tube is then pushed again well into the bladder and the blood washed out through the tube. An obdurator is then put in and the punch removed.

From now on the post-operative treatment is a question of taking care of the bleeding. A large two way catheter is immediately introduced into the bladder and an irrigation begun through it before clots are allowed to form. The irrigation

being carried along with the patient to his room where it is kept up continually for about forty-eight hours with boric acid solution at 110 degrees.

At times the tube will become blocked with clots and sometimes it is possible to remove these by a suction syringe applied to the end of the catheter. At other times it is necessary to remove the catheter and through a metal tube evacuate the clots from the bladder. If this is done the irrigation should be immediately resumed. If the patient has pain it can be depended upon that it is due to blood clots in the bladder, and the very presence of blood clots in the bladder tends to keep up bleeding on account of the constant effort or movements of the bladder to expel them. When things are worked properly the patient does not have pain. One should not attempt to avoid pain by shutting off the irrigation as it simply tends to cause the bladder to fill with blood clots and causes considerable trouble in removing them.

Another method of dealing with these cases after the punch procedure has been done is to introduce a large number thirty-two French woven silk catheter and not carry on an irrigation. Personally I do not find this method as satisfactory as where the irrigation is kept running.

Post-operative care of cases in which the punch operation has been done is by no means difficult but requires the constant attention of the surgeon himself and one who is familiar with dealing with this type of case.

Usually at the end of about twenty-four hours irrigation is running quite clear and at the end of about forty-eight hours the catheter can be removed, and at the end of a week the patient is practically cured.

In properly selected cases it is a most brilliant operation in its results, in as much as, cases of even complete retention who have used a catheter for years are able to avoid in a normal manner.

The punch operation must not be looked upon as some easy method of performing prostatectomy. Nothing could be more disastrous or disappointing than to attempt to make a channel in a hypertrophied prostate. The hypertrophied tissue simply swells, comes together and the obstruction is perhaps greater than ever. Nor must the punch procedure be looked upon as a palliative operation in contracture of the vesical neck, for in this condition it is unquestionably the operation of choice. Prostatectomy in these cases is not indicated, and not only is it not indicated, but is a most unsatisfactory and dangerous procedure out of all proportion to the work to be done.

To go back to the words of Guthrie, almost a hundred years ago, "The object is to divide the bar, dam or stricture with as little injury as possible to the neighboring parts."

CONGENITAL PYLORIC STENOSIS.

By ALANSON WEEKS, M. D., San Francisco.

He who would treat a case of true so-called congenital pyloric stenosis medically should first be made to cut the tumor found in such a condition with a fairly sharp scalpel. The hypertrophy of the tissue found at the pylorus in these babies is so thick and so dense that relaxation with other than mechanical means should at last be believed to be out of the question.

The idea which should really be impressed upon all of us who treat babies is to make a correct diagnosis, and make it early. Observe the babies carefully when they start to vomit. If this becomes projectile in character, definite peristaltic waves can be seen, with much distention of the stomach and rapid loss of weight, so that your baby in a very short time looks dried out, with a tumor which can be felt at the pylorus, and the child is markedly constipated—as a rule such a child needs operative help. An X-ray picture of such a baby, with bismuth, is entirely unnecessary for diagnosis, but shows very beautifully the dilated stomach with little or nothing passing into the duodenum.

Up to the last year, posterior gastroenterostomy was done routinely in all cases. At that time Dr. Langley Porter, returning from the East, had been able to observe the work done by Dr. William A. Downes, of New York, who was using the method originated by Frederet, and commonly known as Rammstedt's. Frederet was the first man, it seems, to discover that it did no harm, after cutting the tumor down to the submucosa, to then do no more, and have perfect recoveries. His method, originally, was to make the incision through the tumor to the submucosa and then stitch it up at right angles, thus widening the lumen, but found in some cases that it was impossible to put in these stitches on account of the density of the tumor, with no bad result.

I am reporting two babies of the same mother, because it seems a matter of interest in trying to work out the cause of the condition. There was nothing in the history of the mother or father of interest in connection with the disease in their two babies. The first child, which was the first child of this mother, a male, was seven and one-half weeks old when he was operated upon. He weighed six and one-half pounds, and had the usual definite signs of pyloric stenosis fairly well advanced. A definite, typical tumor was found at the pylorus, and a posterior gastroenterostomy was done. The patient was under the care of Dr. Langley Porter, who took full charge of the feeding. He was fed after the anesthesia wore off, and no vomiting occurred. The child made an uneventful recovery, and is to-day perfectly normal in every way.

The second child, a male, was brought to the city in March, 1915, was five weeks old and in good condition. He was under the care of Dr. William P. Lucas, Dr. Porter being in the East at the time. The baby had the same symptoms as his older brother, and the young mother demanded immediate operation, before, as she expressed it,

— NOTICE —

The California State
Journal of Medicine and
the Medical Society
State of California
Telephones are now

"This baby became as bad as the first one." The typical symptoms were present, practically no food being retained. On March 27th a posterior gastroenterostomy was done. He was fed after the anesthesia wore off. He vomited bile at times for the first few days, but gradually made a perfect recovery. The patient is to-day perfectly normal. Two months ago Dr. H. E. Ruggles made X-ray examinations of these children, and reported bismuth passing through the artificial opening in both cases.

At this time I should like to report three patients operated upon after the method of cutting the tumor to the submucosa and dropping it back, with no further interference.

The first child, A. F., a male, eight months old, was brought to the hospital on July 12th, 1915, and operated upon July 14th. As has been observed in some of our other cases who had drifted along so many months, the patient stood the operation badly, and died five hours after being returned from the operating room, from edema of the lungs. Quantities of fluid poured from the lungs before death. The pulse was fair after breathing stopped. I was able to immediately open the abdomen, and found that the incision through the tumor was even full of a blood clot, and the film-like omentum had wrapped itself over the wound about the pylorus even at this early period, so that it was detached with difficulty. There was no blood in the abdomen. The stomach was markedly contracted and empty, and the pylorus freely patent.

The second case, P. R., male six weeks old, was operated upon August 13, 1915. A typical tumor was found, which was incised to the submucosa, nothing further being done. The child was fed after the anesthesia wore off, and there was no vomiting. The patient improved immediately, and is to-day normal in every way.

The third patient, H. B., male, aged six weeks, was operated upon May 18, 1916. Split tumor to submucosa. The child was fed after the anesthesia wore off, and did not vomit after the operation. He is to-day in good health.

There is enough evidence on which to make the following conclusions:

- (1) Congenital pyloric stenosis must be diagnosed early.
- (2) It must be relieved by operation.
- (3) The operation known as Rammstedt's is by far the best, as it is the simplest, quickest and safest.
- (4) A pediatrician should work with the surgeon, in order that the baby may be properly watched and fed.
- (5) Babies said to have recovered from this condition medically were improperly diagnosed, as the tumor could not have been present.
- (6) The anesthetist should be the best possible.

Bibliography.

- Nicoll, J. H.—Several patients from a further series of cases of congenital obstruction of the pylorus treated by operation. *Glasgow Med. Jour.*, 1906, LXV, 253-257.
 Stiles, H. J.—Pyloric stenosis in infants. *Brit. Med. Jour.*, 1906, II, 943-948.
 Dufour, H., et Fredet, P.—La stenose hypertrophique

du pylore chez le nourrisson et son traitement chirurgical. *Rev. de Chir.*, 1908 XXXVII, 208-253.

Oechsenius, K. u. Weber, W.—Operation bei der Pylorusstenose des Säuglings. *Berl. klin. Wochenschr.*, 1910, XLVII, No. 17. Abstract: *The Journal A. M. A.*, June 11, 1910, 2007.

Rammstedt, C.—Zur Operation der angeborenen Pylorusstenose. *Med. Klin.*, Berlin, 1912, VIII, 1762-1795. Abstract: *The Journal A. M. A.*, Nov. 23, 1912, 1929.

Downes, William A.—The operative treatment of pyloric obstruction in infants. *Surgery, Gynecology and Obstetrics*, 1916, XXII, 251-257.

Hirschfeld, H. K.—La stenosi spastica ipertrofica congenita del piloro e l'operazione di Rammstedt. *Pediatrics*, Naples, 1916, No. 5, 257-320. Abstract: *Current Med. Lit.*, LXVI, June, 1916, 2043.

PRELIMINARY TESTS OF THE BLOOD IN TRANSFUSIONS.*

By S. H. HURWITZ, M. D., San Francisco.

I wish to speak to you concerning those accidents in transfusion which may result from the incompatibility of the donor's and recipient's blood. Due to the increasing popularity of transfusion and its greater application as a therapeutic measure, it is becoming more and more necessary to exclude wherever possible agglutinative and hemolytic donors by careful preliminary tests. Two bloods are incompatible if the one contains agglutinins or hemolysins for the red corpuscles of the other. Strictly speaking, the occurrence of agglutinins in human blood is not a pathological phenomenon, for it has been shown by a number of workers that all normal human bloods contain agglutinins in greater or less concentration. In fact, on this basis it has been possible to classify individuals into four permanent and hereditary groups according as to whether the serum of one agglutinates the red corpuscles of the other; only those individuals belonging to the same group, whose bloods do not agglutinate one another. Furthermore, it has been shown with some degree of certainty that intravascular agglutination may give rise to no serious clinical symptoms. There is no evidence that agglutinative transfusions will cause embolism or thrombosis.

The occurrence of intravascular hemolysis, however, is a pathologic phenomenon, and may give rise to serious clinical symptoms, often leading to death. These symptoms are doubtless familiar to most of you. Following a severe constitutional reaction attended with chills and fevers, there results a hemoglobinemia with an extreme reduction of hemoglobin followed by hemoglobinuria of shorter or longer duration and by certain cutaneous manifestations of an urticarial or purpuric character.

From a practical viewpoint, it is important to know in the first place with what frequency one may expect to observe agglutinative and hemolytic phenomena in transfusion; and in the second place, it is important to know whether there is any intimate relationship between hemolysis in the test tube and intravascular hemolysis. Unfortunately, the first point cannot be answered with extreme certainty, for, as you know, clinicians have been more concerned with the perfection of the technic of transfusion rather than with the study of the blood preliminary to transfusion; and consequently, no accurate statistics on this point

* Presented before the Surgical Section of the San Francisco County Medical Society, February 15, 1916.

are available. From the work of a few observers, who have carried out routine preliminary tests upon a large number of donors and patients, it is possible to state that one may encounter incompatible blood in about ten per cent. of the cases. Concerning the second point, more definite information is available for we now know from clinical and experimental evidence, that there is a very close relationship between hemolysis in the test tube and hemolysis in the body of the patient, so that it is possible to approach a transfusion without anxiety if *in vitro* tests for agglutination and hemolysis have been demonstrated to be absent.

Now a few words concerning the tests which have been used within recent years to demonstrate the presence of agglutination or hemolysis in the bloods of patient and donor. The classical procedure is doubtless familiar to all of you, and especially to those who have carried out any serological technic or have done the routine Wassermann reaction. It is necessary merely to aspirate some blood from donor and patient and to divide each specimen into two parts. One of these is permitted to clot for the expression of serum, and the other is delivered into some anti-coagulating fluid, either citrate or oxalate. From the latter specimen, the red corpuscles are obtained by centrifugalization.

These are now washed in salt solution, and made up to a definite suspension varying from one to five per cent. It is now simply necessary to mix definite amounts of the corpuscle suspension with varying dilutions of the patient's serum and to incubate these mixtures at body temperature. Hemolysis can be easily noted macroscopically by a reddish coloration of the supernatant fluid after a sedimentation of the red cells. Agglutination may also be noted directly by a clumping of the red corpuscles at the bottom of the test tube. For purposes of completeness, furthermore, it is essential to test in this manner not only the corpuscles of the donor against the serum of the patient, but also the red cells of the patient against the serum of the donor. Some short cuts of this technic have been introduced by various workers. Ottenberg and Epstein, for instance, mixed the bloods of donor and recipient in Wright's capillary pipettes instead of in the usual test tube; but in other respects their method does not differ from the usual procedure.

A method which promises much from the point of view of simplicity and accessibility to the average worker is used by Weil of New York. This worker, instead of separating the blood into corpuscles and serum, uses the mixtures of citrated bloods. The whole citrated bloods of both donor and patient are mixed in three different dilutions. One tube contains a mixture of 0.5 cc. of the donor's citrated blood and 0.5 cc. of the citrated blood of the patient. In the second tube the mixtures are present in the proportion of nine to one, and in the third tube in the proportion of one to nine. After a period of incubation, it is possible to tell macroscopically whether or not hemolysis is present in the blood, either of donor or recipient or both. It is not possible as yet to state

with any certainty just how accurate this procedure is and whether the presence of the citrate may or may not mask the presence of hemolysins in weak concentration.

Working on a similar principle, Rous and Turner have recently introduced a still more simplified method of testing donors for transfusion. They employ the ordinary white cell pipette used for the enumeration of the leukocytes. A 10% citrate solution is drawn up to the 1 mark and blood obtained from a prick of the finger or the lobe of the ear is drawn up to the 11 mark. The mixture is now rapidly expelled into a test tube, and this procedure is repeated until sufficient citrated blood is obtained both from donor and recipient for the test. The citrated bloods are now mixed in Wright's capillary pipettes in the proportion of one to one, one to nine, and nine to one. The ends of the pipettes are sealed, and after a period of standing at room temperature varying from five to fifteen minutes, readings for agglutination are made microscopically. A drop of the mixture is expelled upon a slide to which is added a drop of salt solution for purposes of procuring a more homogenous suspension. A study of the film under the microscope will show in the presence of agglutinating mixtures the presence of smaller or larger clumps instead of the usual dispersion of the red cells or their formation into rouleaux. The value of testing for agglutination depends upon the well-known fact that this phenomenon may occur at times without hemolysis, but that hemolysis is usually associated with or precedes agglutination, so that by excluding the latter phenomenon, it is possible to exclude also the former.

It is possible, therefore, to state with a fair degree of certainty that accidents in transfusion due to the occurrence of hemolysis and agglutination between the bloods of donor and recipient may be excluded by careful preliminary tests, and that there is a close relationship between test tube hemolysis and intravascular hemolysis. The value of using citrated blood in carrying out the preliminary tests instead of following the classical procedure still remains to be determined by testing the bloods of a large number of donors and recipients.

**PATRONIZE THOSE
WHO PATRONIZE YOUR
JOURNAL**

LEUKOPENIA, ITS RELATION TO BRONCHITIS.

By JOSEPH H. CATTON, B. Sc., M. D., San Francisco.

There have been many classifications of bronchitis on the basis of etiology. Marfan divides the infectious types into non-specific and specific. His non-specific bronchitides are usually due to streptococci or pneumococci and they are the ones that result from the activity of organisms already in the bronchi—following a chill, inhalation of an irritant, etc.; or, from an extension of an infection from neighboring parts; or, as a part of a septicemia. He calls those bronchitides specific that occur in the course of influenza, pertussis, measles, diphtheria, anthrax, plague, tuberculosis, variola, malaria, glanders and syphilis; claiming that in each case the bronchitis results from infection by a specific organism which selects the bronchial mucosa as one of its points of attack.

McPhedrin and Babcock use practically the same classification.

Claisse calls the bronchitis of diphtheria, pertussis, measles, smallpox, typhoid or syphilis, secondary; saying that it is preceded by and prepared for by the infection and that there then occurs an elective localization of a morbid process in the bronchi.

Hutinel, similarly, speaks of a secondary bronchitis and of its occurring late in "les infections adynamique," a number of causes contributing to the affection and not usually the organism itself.

Hoffman contrasts the bronchitides of measles, smallpox, typhoid, intermittent fever, glanders, syphilis, tuberculosis and relapsing fever with a similar affection in pertussis, erysipelas, diphtheria and pus cocci infection where he says the lesion is on the mucosal surface.

The author adopts the Marfan classification but would modify it. There have been included in his specific group—diphtheria, erysipelas, scarlet fever, anthrax, glanders and plague for the reasons that (i) the bronchitis is due to a specific organism and (ii) the affection has specific characteristics, e. g. the membrane in diphtheria. But none of these infective agents show a marked specific election for bronchial mucosae: in the case of anthrax the spores are inhaled and in each of the other infections the bronchitis results by extension of the infection from contiguous tissues. So it were better that these diseases be regarded as non-specific as regards bronchial mucosae, and it would be less confusing to speak of non-elective and elective bronchitis.

SUGGESTED CLASSIFICATION.

Infectious Bronchitis.

A. Non-elective Bronchitis: non-specific as regards bronchi: usually due to streptococci, pneumococci, staphylococci or influenza bacillae.

1. With non-specific characteristics.

a. Endogenous infections.

Germ in bronchi—follows chill, chronic lung disease, inhalation of irritants, intoxication of alcohol, iodine, bromine, etc.;

extension of neighboring infection: as part of septicemia.

b. Exogenous infection. inhalation contagion.

2. With specific characteristics.

Diphtheria, erysipelas, scarlet fever, glanders and plague: by extension.

Anthrax by inhalation of spores.

B. Elective Bronchitis: specific as regards bronchi. Occurring in measles, malaria, influenza, pertussis, typhoid, tuberculosis, and less frequently in German measles, smallpox, typhus, syphilis and scarlet.

An elective bronchitis rather than a disease *per se*, is a symptom occurring in the course of a systemic affection. There has been much discussion as to the immediate cause of the bronchitis in these cases.

The French lay more emphasis on the soil as a factor. Dieulafoy and Hutinel cite the bronchial hyperemia present in these infections, the former author speaking more especially of typhoid. Meunier blames a disturbed vaso-motor mechanism in part: Laséque an enfeebled circulation. Claisse says there is a general lowering of resistance but that the bronchi are more especially affected and that there then occurs this localization of a morbid process in the respiratory tract rather than the bringing there of the specific organism concerned, e. g. the typhoid bacillus. McPhedran thinks the agent reaches the bronchi: entering the tract directly in the cases of influenza, measles and pertussis and by way of the blood stream in malaria, variola and syphilis. Many support the idea that these bronchitides are the result of hematogenous infection, Fowler and Godlee blaming the toxins in measles and typhoid and Babcock saying that either the germs or their toxins may reach the mucosae in all these infections. Lord says Jehle has recovered the *Bacillus typhosis* in four cases of bronchitis occurring in typhoid fever: Hutinel says it is the exception to find them.

This communication suggests that the organisms that produce an elective bronchitis tend also to bring about a relative or absolute reduction in the number of polynuclear leukocytes. It will now consider (a) the infections etiological of an elective bronchitis, (b) the leukocyte pictures present in these infections, and (c) the relation between leukocyte picture and tendency toward bronchitis.

ETIOLOGY OF ELECTIVE BRONCHITIS.

Bronchitis may occur in measles, usually in the prodromal stages. Claisse finds that the disease predisposes toward a later bronchitis. Dieulafoy and others find it one of the chief elements in measles and Holt finds it almost invariably in cases in children.

Lord finds a similar but less intense bronchitis in German measles.

Smallpox frequently presents a bronchitis of the elective type and an eruption similar to that on the skin may occur in the bronchial mucosae.

A bronchitis is an important element in pertussis, Holt finding it common in children. Dieulafoy finds it less frank than the bronchitis in certain other conditions. Hoffman is inclined to treat it as a non-elective bronchitis but Lord thinks it may occur either as a local infection or as an elective one.

A bronchitis may occur in the early stages of malaria; in the paroxysms or alone as an intermittent affection.

Influenza is almost invariably accompanied by a bronchitis which may be due to extension from the upper respiratory tract or be elective in type.

Typhoid presents a bronchitis frequently enough to make it a symptom of the disease.

Lord states that a tracheobronchial catarrh is common in typhus fever.

A bronchitis may occur at any time in the course of pulmonary tuberculosis by an extension of the infection; but not infrequently an elective bronchitis accompanies a systemic tuberculosis in the absence of other pulmonary pathology.

In scarlet fever a bronchitis may result from an extension of the throat infection and it is possible that an elective bronchitis may also occur.

A bronchitis may appear as a manifestation of secondary or tertiary syphilis, in which case it is undoubtedly of elective nature.

LEUKOCYTE PICTURES.

The leukocyte pictures in the infections just listed will now be considered showing the tendency toward disturbed leukocyte balance; i. e., toward decrease in the number of polynuclear cells and increase in the number of hyaline ones.

Leukocytosis is wanting in measles and a leukopenia is practically constant. Although there may be little change in the hyaline cell percentage, Buchanan, Ewing and Gulland and Goodal report an increase in the number of these cells.

Wilson and Buchanan find a leukopenia characteristic of German measles. There may also be a lymphocytosis.

In pertussis there is a relative and an absolute increase in the number of lymphocytes and so a corresponding relative decrease in the number of polynuclear cells.

It was shown, similarly, in previous communications* that a reduction absolute or relative in the number of granular leukocytes is characteristic of malaria, influenza, typhoid, typhus, tuberculosis and syphilis; and, that under certain conditions similar blood findings were obtained in smallpox and scarlet fever.

SUMMARY.

1. Elective infection of the bronchi may occur in measles, malaria, influenza, pertussis, typhoid, and tuberculosis; and, less frequently in German measles, smallpox, typhus, syphilis and scarlet fever.

2. A reduction absolute or relative in the number of polynuclear leukocytes is characteristic of the above infections excepting smallpox and scarlet fever.

3. A reduction absolute or relative in the number of polynuclear leukocytes may occur under certain conditions in smallpox and scarlet fever.

A careful consideration of the infectious etiology of bronchitis prompts the writer to suggest the division of infectious bronchitides into Elective and Non-elective types; and, after a study of the leukocyte pictures in the infections which are associated with the elective type of bronchitis—the

Consult table for résumé—

Disease	Total Whites	Granulars		Hyalines		G H +	Bronchitis ..
		Rel.....	Abs.....	Rel.....	Abs.....		
Measles	—	—	—	+	+	+	+
Malaria	—	—	—	+	+	+	+
Influenza	—	?	—	?	?	+	+
Pertussis	+	—	?	+	+	+	+
Typhoid	—	—	—	+	—	+	+
Tuberculosis	—	—	—	—	—	+	+
Ger. Measles.....	—	—	—	?	—	+	+
Smallpox—reg. ...	+	+	+	—	—	—	} +
mild or vir. ...	—	—	—	+	+	+	
Typhus	+-	—	—	+	+	+	+
Syphilis	=	—	—	+	—	+	+
Scarlet—pure ...	?	?	?	?	?	?+	} +
Strep. +	+	+	+	—	—	—	

Key to chart:

— no change.

— decrease in number.

++ increase in number, or present.

? uncertain, unknown, variable.

CATTON—1916.

suggestion is offered that there is a definite relation between this affection on the one hand and a disturbed leukocyte balance; i. e., a tendency toward decrease in the number of granular cells and increase in the number of hyaline ones.

Bibliography.

Etiology of Bronchitis.

- Adami and Nicholls, Principles of Pathology, 1911, vol. ii, pg. 279.
- Babcock, Diseases of the Lungs, 1907, pg. 1.
- Claissé, Bronchites; Gilbert et Thoinot's Maladies des Bronches et des Poumons, 1910, xxix, pg. 5.
- Dieulafoy, Textbook of Medicine, 1911, vol. i, pg. 77.
- Ewart, Bronchitis; Allbutt and Rolleston, System of Medicine, vol. v, 1909, pg. 71.
- Fowler and Godlee, The Diseases of the Lungs, 1898, pg. 89.
- Ginrac, Bronches; Dictionnaire de Médecin et Chir. pratique, pg. 569.
- Hoffman, F. A., Bronchitis; Nothnagel's Encyclopedia of Practical Medicine, 1910, pg. 88.
- Holt, Diseases of Infancy and Childhood, 1908, pg. 513.
- Hutinel, Maladies du Poumon; Les Maladies des Enfants, tome iv, 1909, pg. 126.
- Lord, Diseases of the Bronchi, Lungs and Pleura, 1915.
- Marfan, Traité de Médecine, tome vi, pg. 281 et seq. (quoted by McPhedran).
- McPhedran, Diseases of the Bronchi; Osler's Modern Medicine, 1907, vol. iii, pg. 636.
- Wilson, Medical Diagnosis, 1909, pg. 1051.

Blood Pictures.

- Adami and Nicholls, Principles of Pathology, 1911, vol. ii.
- Buchanan, The Blood in Health and Disease, 1909.
- Burnham, Hemocytes and Hemic Infections, 1913.
- Cabot, Diseases of the Blood; Osler's Modern Medicine, 1915, vol. iv.
- Ibid, Physical Diagnosis, 1909.
- Catton, Leukopenia, Its Relation to Orchitis, Cal. State Jour. Med., Feb., 1916.
- Ibid, Leukopenia, Its Relation to Neuralgia, Cal. State Jour. Med., 1916.
- Cohen and Strickler, The Leukocyte Picture in Pulmonary Tuberculosis, A. J. Med. Sc., 1911, vol. ii, pg. 691.
- Councilman, Smallpox, Osler's Modern Medicine, 1913, vol. i.
- Dieulafoy, Text Book of Medicine, 1911, vol. ii.
- Emerson, Clinical Diagnosis, 1911.
- Ewing, Clinical Pathology of the Blood, 1903.
- Hultzen, The Leukocytes in the Early Diagnosis of Typhoid, A. J. Med. Sc., 1911, vol. 142, pg. 253.
- Gulland and Goodal, The Blood, 1912.
- Landis, Progressive Medicine, 1913, pg. 363.
- McCrae, Symptoms of Typhoid Fever, Osler's Modern Medicine, 1913, vol. i, pg. 130.
- Sahli, Diagnostic Methods, 1909, pp. 645 et seq.
- Stitt, Practical Bacteriology, Blood Work, etc., 1909, pp. 161 et seq.
- Wilson, Medical Diagnosis, 1909, pg. 262.
- Wood, Chemical and Microscopical Diagnosis, 1905, pg. 118 et seq.

* Catton, Leukopenia, Its relation to Orchitis. Cal. State Jour. Med., Feb., 1916.

Ibid, Leukopenia, Its relation to Neuralgia. Cal. State Jour. Med., March, 1916.

PROSPECTS OF SURGICAL TREATMENT
IN MENINGITIS.*

By HOWARD C. NAFFZIGER, M. D., San Francisco.

If we except the infections due to the diplococcus intra-cellularis the routine treatment of infections in the subarachnoid spaces in the past has been medical and not surgical. There have been occasional reports of small series of cases treated by one or another surgical procedure. Experimental therapeutics in meningeal infections has been directed along two lines—first, toward the production of specific anti-bodies and, secondly, toward surgical relief.

The surgical endeavors have been to secure drainage and removal of the infected fluid. The removal of the source of infection in the group of cases commonly seen in eye, ear, nose and throat practice has been covered. The necessity for the removal of the primary focus of infection is obvious.

Our consideration is just now directed toward the surgical aspects of meningitis. The progress being made in specific therapy is, however, of special interest and holds promise of future value. Within the past five years investigations of the chemical constituents of the choroid secretion and the changes made in the choroid secretion by infections have given much information. This information can be utilized in improved methods of diagnosis and may be expected to help clear the way for treatment.

The work of Flexner has shown in pneumococcus infections of the subarachnoid spaces that the destruction of bacteria is dependent upon several factors. Some of these factors demand the presence of certain soaps and boric acid. It is possible then as our knowledge becomes more complete that the introduction into the spinal fluid of substances favoring destruction of infecting organisms will not be limited to specific sera. Inorganic and organic compounds of known composition and in accurate amounts may be of practical use.

The gravity of meningeal infections is proverbial. Why should acute infections in this region have a higher mortality than acute infections in the extremities—the abdomen or the thorax? Consideration of the reasons for this should clarify our ideas regarding the direction of treatment. Also it will assist us to direct our endeavors profitably. The general factors governing the gravity of infections in all parts of the body are, first—the character, the virulence and the number of the infecting organisms. Second—the amount of absorption of toxic infectious products. Third—the resistance of the individual.

As to the character, virulence and the number of organisms—the relation of these to the seriousness of the infection is apparent.

The relation of the resistance of the individual to the outcome of the infection is also plain. The dangerous absorption of the infectious products is what concerns us most. A comparison of subarachnoid infections with infections of other parts of the body will make the point clear.

The amount of suppurative material present in one or another part of the body—whether in the

right iliac fossa or in an extremity—does not give cause for worry if it is purely a local process. If, however, absorption from it is rapid we have the signs of systemic reaction. The systemic depression determines the gravity of the picture.

An infected part may be walled off from the body. Infiltration of tissue by the mobile tissue elements, the phagocytes, the plugging of lymphatics and the thrombosis of veins localize the lesion. As long as nothing occurs to break this barrier to absorption the general condition of the patient is unaffected.

An individual with a pyogenic infection which has been drained shows little or no general reaction after drainage has been properly established.

The point is, that infection in the body may or may not be of gravity and that the danger lies not in the amount of highly toxic material present but in the amount which is absorbed and which then affects the body as a whole.

With these factors in mind the gravity of meningeal infections is not surprising. The central nervous system is highly vascular. There are exceptional facilities present for absorption in the cranial and spinal spaces.

The fluid output of the choroid plexus may be under the conditions present in meningitis in an amount approximately equal to the total output of our two kidneys in each twenty-four hours. All of the cerebro-spinal output is absorbed rapidly. Exceptional facilities are then present for absorption of toxins in this fluid. Not only this, but the absorption is directly into the blood stream. Elsewhere in the body, absorption occurs through the lymphatics. The absorbed material passes through lymph vessels and glands to the blood stream. Absorption from the subarachnoid spaces is directly into the blood stream. Substances such as phenol-sulphonephthalein have been shown by Dandy and Blackfan to be absorbed into the blood stream promptly and completely, only a minute trace appearing in the thoracic duct. For practical purposes all the absorption of the fluid and its constituents is into the blood stream directly. The portion passing into the lymphatics is so small as to be negligible. The blood is directly flooded with toxins without the intervention of lymphatic tissue. The opportunities offered for rapid absorption of large amounts of toxins from the membranes of the central nervous system are not excelled in any other part of the body.

The high degree of sensitiveness of the central nervous system to the direct action of poisons adds also to our troubles. Many poisons are far more toxic when introduced into the cerebro-spinal space than when they reach the nervous tissues by way of the blood stream. Certain protective substances formed in the body as a response to the infection can not find their way into the cerebro-spinal fluid and so can not assist in the neutralization of toxins and the destruction of bacteria. It has been shown that the agglutinins of typhoid fever, bacterial toxins such as that of tetanus and the hemolytic amboceptors do not pass the choroid plexus and enter the fluid.

Another factor which in itself may cause a fatal result in meningitis, is intra-cranial pressure. This

* Read before the annual meeting of the California State Medical Society, Fresno, Cal., April 20th, 1916.

will cause first a slight congestion, then anemia of medullary centers. The usual circulatory response of a slowed pulse and raised blood pressure results. This is a familiar picture. Up to the individual's power of compensation the increased intra-cranial pressure will be met by a sufficient circulatory response to continue to force blood into the cranial cavity. When this power of compensation fails, the blood pressure falls, the pulse rate increases, anemia or else circulatory stasis in the brain occurs and death results.

There are several reasons for the production of this intra-cranial pressure. All of them have in common an increased amount of intra-cranial fluid. Certain substances increase the rate of secretion of the choroid plexus. This is seen most often as a result of anesthesia. Alcohol, the toxins of nephritis, pilocarpin, extracts of the choroid plexus itself and extracts of many other organs promote secretion. It is not possible at this time to include in these remarks a consideration of non-bacterial meningitis—serous meningitis and the brain edemas. These varieties are of great interest and in them certain surgical procedures are of the most decided value.

Bacterial infections of the meninges have the effect of increasing the choroid secretion. The increased production of fluid then is the first factor in the production of pressure. In itself it is usually not sufficient to cause serious danger.

Difficulties in absorption are more common. There may be obstruction to the outflow of fluid from the ventricles. This occurs most often from deposits of lymph and pus at the tela choroidea inferior, blocking the openings of the fourth ventricle. In such cases dilation of all four ventricles follows. More limited accumulations occur if the block is in the iter or at either of the foramina of Monro.

In these cases of obstructive hydrocephalus surgical treatment offers most. This applies to all the infections of the cerebro-spinal spaces whatever the nature. Obstructive hydrocephalus occurs frequently in the epidemic variety of meningitis and accounts for a considerable number of the deaths. Flexner's serum will do much toward combating the infection but obviously can not overcome mechanical obstacles. The removal of the obstruction or at least removal of accumulated fluid by ventricular puncture and the introduction of serum into the ventricles is frequently necessary.

Intra-cranial pressure arises from one other cause. The normal outlets for the absorption of the cerebro-spinal fluid are through Pacchionion granulations and other arachnoid villi and through the perivascular spaces. It should be remembered that these outlets may become blocked by infectious products. In these we have a type of obstruction comparable to that found in the so-called idiopathic or essential hydrocephalus. In these there is a fault at the place of ultimate absorption, but no block to the outflow of fluid from the ventricles. In this variety the futility of ventricular puncture to lessen intra-cranial pressure is obvious. Ventricular puncture in these cases may be needed, however, to introduce sera. The practical point is this—with marked or rising intra-

cranial pressure in meningitis we must differentiate the cases with a ventricular block causing internal hydrocephalus from those having a general widespread accumulation of fluid from obstructed points of absorption. The former—that is, the cases of internal hydrocephalus—are most readily relieved and will be considered later.

The work of Dandy and Blackfan in differentiating the varieties of hydrocephalus in infants, suggests that we may be helped similarly in meningitis. Phenosulphonephthalein introduced by spinal puncture should appear normally in the urine in about ten minutes. With faulty absorption as in meningitis it might prove to be much delayed.

The surgical treatment of meningitis has from time to time been revived and strongly advocated. The methods adopted have varied. Lumbar laminectomies with continuous drainage have been performed for the relief or cure of the disease by Barth, Horseley, Rolleston and Allingham, Wynter, Cushing and many others. Leonard Hill advocated openings into the subtentorial spaces and lumbar laminectomy with through and through irrigations. Barr demonstrated the passage of solutions colored with methylene blue through the spinal meninges. Murphy expressed some enthusiasm for this plan of treatment. Drainage through the lumbar meninges without operation but by the use of large needles or trocars, has been frequently performed, particularly by Gorse.

The most recent impetus to the surgical treatment was given by Haynes and Kopetsky in 1912, when they strongly championed drainage of the posterior cistern. Their strong advocacy of the method has not been justified by the results of this treatment. A considerable number of reports of cases treated by the Haynes operation have accumulated in the last four years. They are not encouraging. With comparatively few exceptions there has been a fatal outcome. Life seems in some, however, to be prolonged.

My personal experience with this operation has been limited to three cases. Two of these, both of pneumococcus meningitis died, one on the tenth day, the other on the third day. The third, a streptococcus meningitis, died twelve hours later. One is forced to the conclusion from a small personal experience and a fairly thorough review of literature, that little can be offered by this drainage operation if used indiscriminately. It is only fair to state, however, that most of the operations have been performed too late. Occasional recoveries follow early operative procedure as in the following case which came under my care for a fracture of the skull. The fracture involved the middle fossa. It passed through the petrous portion of the temporal bone. Three days following the injury the patient developed headache, a stiff neck, positive Kernig sign with a rise in temperature. The optic discs were hyperemic. Spinal puncture revealed a clear fluid with a cell count of seventy-five, all polynuclears. Globulin reactions present and sugar reduction absent. Immediate sub-temporal decompression with drainage between the temporal lobe and petrous portion of the temporal bone was performed. This resulted in a profuse drainage. There was a complete and per-

manent subsidence of all symptoms in two days with prompt recovery. In this case there was no growth obtained on cultures taken from the cerebro spinal fluid. Such results encourage us in the groups where the point of entering infection can be recognized.

Repeated lumbar puncture therapeutically with the withdrawal of considerable fluid has its adherents. It seems definitely of value. Reports of its use in the hospitals of Europe during the present war incline one to concede it a definite place in treatment.

Judgment of the relative value of this or that operation based on the published reports is most uncertain. Only a variable proportion of all the cases are recorded. For that reason it is impossible to say that lumbar drainage offers more than drainage of the posterior cistern or vice versa.

If one were to rely on the reported cases alone the impression would be gained that the results of lumbar laminectomy and drainage are somewhat better than from the results of the Haynes operation.

The value of the ophthalmoscopic findings as an index of intra-cranial pressure has been discussed in one of the previous papers. The swelling of the nerve head is one of our most reliable indications of sub-acute and chronic intra-cranial pressure, and it is our best guide in treatment. Frequent and detailed ophthalmoscopic examinations are most necessary and their importance can not be over-estimated. As to the indications for surgical treatment:

Frequent lumbar punctures in general meningeal infections with the slow withdrawal of fluid varying in amount from ten to fifty ccs. are of value.

Infections due to the diplococcus intracellularis which do not respond readily to Flexner's serum intra-spinally should have the benefit of intra-ventricular injections.

Those cases showing a definite swelling of the optic discs, especially if it is progressive or is an outspoken choked disc, demand relief for their pressure.

If this be due to an internal hydrocephalus it can best be relieved by the Haynes operation or by a callosal puncture. If the pressure be due to faulty absorption of the intra-cranial fluid little can be expected by any operative procedure. Intermittent drainage through a small trocar inserted in the lumbar spaces is well worth a trial.

TREATMENT OF DIPHTHERIA.*

By GEORGE E. EBRIGHT, M. D., Assistant Professor of Clinical Medicine University of California, San Francisco.

Interest in the subject of diphtheria has received great stimulus in the last few years in the discussion of the Schick reaction, diphtheria carriers, active immunization and of the dosage of antitoxin in diphtheria patients, and the conclusions to be drawn from personal experience are largely influenced by the mass of recent literature upon these subjects.

The results obtained by Burrows in the Boston City Hospital in 1901 demonstrate the advantages of large doses. More recently this has been emphasized by Woody and others,¹ who find de-

¹ Journ. A. M. A., Sept. 5, 1914, p. 861.

cided advantage in large initial doses in all cases of diphtheria, including the milder forms, with the result that the total number of doses and the total amount of antitoxin necessary in a given case is diminished and that the results in cutting short the disease are decidedly more satisfactory. At the San Francisco Children's Hospital the routine has been adopted of giving an initial dose of eight to ten thousand units, usually 10,000 in all cases, and repeating the dose every six to eight or 12 hours as occasion demands until there is evidence of effect upon the membrane. We feel that even in small children this procedure is best; that it hastens the termination of the infection; that by stopping as early as possible the diphtheria intoxication complications are less frequent and also that probably the length of time for the disappearance of the diphtheria bacilli is shortened; in other words, a lesser tendency for the development of carriers. We have found, as is also the experience in other hospitals, that patients are admitted without previous treatment or who have been treated with too small doses. We feel that it is far safer to administer from 8,000 to 10,000 units at first and to repeat this dose within the first 24 hours sufficiently frequently so that at least by the first day the effect upon the membrane is obtained.

The value of the Schick reaction and active immunization by means of the toxin-antitoxin method is undoubtedly greatest at the present time in institutional practice. The Schick reaction may be considered a guide to the advisability of immunization and also a measure of the immunity obtained. In private practice it is frequently too difficult to exercise sufficient control of the patient and his surroundings to allow the time necessary to determine the presence or absence of this reaction, and it is safer therefore to administer immunizing doses of antitoxin (passive immunization) to children who have been exposed. However, where contact has not been too close and where careful supervision may be observed, it is better practice to test out contacts by the Schick method and refrain from unnecessary immunization in those who show a negative reaction. Passive immunization by means of antitoxin has two disadvantages. When the patient already has native immunity it is an unnecessary expense; also, where

— NOTICE —

The California State
Journal of Medicine and
the Medical Society
State of California
Telephones are now

— DOUGLAS 62 —

* Read before the San Francisco County Medical Society, March 21st, 1916.

it can be avoided the risk of sensitizing an individual to serum is obviated. In such institutions as large hospitals and orphan asylums it becomes a procedure of importance. Moreover, the degree of exposure to the infection is as a rule not so great in institutions as it is in the home, and there is less objection to waiting for the necessary time to elapse for the development of the Schick reaction.

While there are other methods of determining the native immunity of a child by the estimation of the amount of antitoxin contained in the blood, the technic is too involved for ordinary purposes. The Schick reaction gives a sufficiently accurate estimation of immunity. Those individuals found which show no reaction may be considered immune and in those where the reaction is positive the question arises as to the preferable kind of immunization. Passive immunization induced by the use of anti-diphtheritic serum may be used to tide over an emergency as where, for example, in children the contact has been intimate or the virulence of the disease renders immediate action advisable. However, the immunity thus induced must be considered only temporary. Active immunization by means of the toxin-antitoxin method as elaborated by Park and Zingher (Active immunization with diphtheria toxin-antitoxin, W. H. Park and A. Zingher, *Journal Amer. Med. Assn.*, Vol. LXV, Dec. 25, 1915, p. 2216) from a theoretical standpoint is desirable as the immunity conferred is probably permanent and the results so far obtained are most promising, although at present this method is still in the experimental stage. Park and Zingher advise for the general prophylaxis against diphtheria in schools and communities, excluding immediate contacts, a mixture of toxin-antitoxin alone (from 85 to 90 per cent. of the L + dose toxin to each unit of antitoxin) or toxin-antitoxin + vaccine of killed diphtheria bacilli. The dose of 1 c.c. of toxin-antitoxin and 1,000,000,000 bacteria is injected subcutaneously and repeated three times at intervals of six or seven days. Results of adding the injections of bacilli to the toxin-antitoxin are not yet available. Their records, however, upon immunization with toxin-antitoxin alone indicate that their methods would ultimately be as successful in establishing human immunity as was the work of Park in 1902 in the immunizing of guinea pigs, goats and horses, and that the application of the method would find special adaptation as indicated by them in children in schools and orphan asylums, mothers and infants in lying-in places, physicians, nurses and ward workers in contagious disease hospitals and patients in general and contagious disease hospitals.

Discussion.

Dr. Howard Dixon: I would like to ask one question. I have a patient, a young man of 28, to whom I gave 20,000 units of antitoxin: 10,000 in the morning and 10,000 in the evening. The membranes cleared up in about a week's time, but the man is still carrying diphtheria bacilli. He does not want his tonsils removed, and I am trying iodized phenol, as recommended by Ott and Roy in the *J. A. M. A.*, Mar. 11, 1916. If Dr. Ebright can enlighten me as to what to do, I shall be much obliged.

Dr. Cullen F. Welty: As to diphtheria carriers, it has been proved at our local Isolation Hospital that people who have had their tonsils removed are not diphtheria carriers. In other words, no diphtheria carriers have been admitted to the Isolation Hospital who have had their tonsils removed.

The only way to get rid of a well established infection of the throat is to take out the tonsils.

Dr. Ebright, closing discussion: I should say that if more antitoxin had been given in the first 24 hours the results would undoubtedly have been better. In mild cases or in any case where the disappearance of the membrane seems to come to a standstill it is advisable to give 10,000 to 20,000 units more, depending upon the case. It is my impression that the best course to pursue to prevent a patient becoming a carrier is to give large doses of antitoxin and effect a cure as rapidly as possible, otherwise the diphtheria bacilli appear to acquire a kind of immunity. There appears to be no satisfactory way of dealing with carriers except maintaining them in quarantine until time shall have corrected the condition.

LOOK OVER THE ADVERTISING PAGES IN YOUR STATE JOURNAL BEFORE MAKING A PURCHASE ELSEWHERE

PSYCHOGENIC FACTORS IN ORGANIC DISEASE.*

(Illustrated by two cases.)

By C. W. MACK, M. D., Assistant Physician Livermore Sanitarium; Formerly Assistant Physician Agnews State Hospital.

These two cases of organic nervous disease are instructive because of the pronounced disability arising from purely neurotic conditions. The evidences of organic disease were sufficient to make a definite diagnosis, but not enough to explain the total disturbance of function. Our attention is thus called to the importance of considering the psychic element in organic cases as well as those which are included among the so-called functional disorders.

Case I.† (E. H. S.) General Paralysis of the Insane in which an astasia abasia is removed after one month of treatment.

This patient was admitted to the Agnews State Hospital November 17th, 1914. Age 41. He had a common school education and had been engaged in commercial pursuits until the time of his disability. The psychosis necessitating his commit-

* Read before the Alameda County Medical Society, December 21, 1915.

† This case is reported through the courtesy of Dr. Leonard Stocking, Medical Superintendent, Agnews State Hospital.

ment had been in existence about one year. He developed delusions which persisted and assumed quite an extravagant nature before he was finally sent to the hospital. He was frequently irritable and finally became so noisy and violent that he could not be controlled. In August, 1914, he had a convulsive seizure accompanied by loss of consciousness. This stuporous condition continued for about twenty hours after which he gradually regained consciousness, but for a number of days he was rather confused. No paralysis followed this convulsion but there was a more rapid progress of the mental trouble.

In addition to the mental symptoms which brought the patient to the hospital he had been unable to walk for eight years because of a very peculiar disturbance of gait. He walked by moving his feet from side to side and this only when supported. This disability followed an injury received in a railroad accident and persisted even after damages were collected from the railroad company. The patient recalls only a few details of the wreck. He was thrown forward, his shoulder striking against the door of the car, and then no events are recalled by the patient until those beginning in the hospital. He was taken to a hospital, where the attending physician found no bruises or marks on the body, although the patient was complaining bitterly of pain. For a number of days he was very excitable and did not sleep even after the administration of large doses of sedatives. The merest touch would cause the patient to scream, so a detailed examination was not made. It was determined, however, that there were no fractures or paralyses. During his stay in bed he could move the legs, and no particular attention was called to them. He was in bed about two months and then, when allowed to get up, it was found that he was unable to walk. There was also some trouble with the left arm, which had been bandaged and secured in a flexed position. Any attempt to move it always caused a great deal of pain. The arm remained in flexion for some time after his discharge from the hospital, even when all dressings had been removed. It gradually relaxed in the course of a few weeks so that proper function returned except for a contracture of the three outer fingers of the left hand. The ability to walk, however, did not return and he was never able to move about unassisted. When trying to stand he invariably experienced a feeling of being at the edge of a precipice over which he was about to fall. He gradually acquired a means of locomotion by moving his feet sideways instead of forward so that with the use of two canes he managed to get about the house and sometimes out of doors. Various methods of treatment were tried by the patient and his family but he did not improve beyond this stage.

Examination: The patient was decidedly euphoric and manifested flighty ideation and delusions. He spoke of wonderful healing powers and boasted of the many spectacular things which he planned to do. There were also delusions of wealth.

The most noteworthy thing about the physical examination was the disturbance of gait and the neurological findings. He said that he could not walk and when asked to do so he did not move the feet forward but turned the body and moved the feet sideways. In this way he moved about the room while being supported. At first when standing with the eyes closed he swayed a great deal and would have fallen if not supported. A second attempt, however, and he was able to stand alone. He never attempted to leave the bed unless there was some one to assist him.

Examination also disclosed contracture of three outer fingers of the left hand at the first and second distal joint. The patient complained of pain in the back and said that the lower ribs were broken loose from the spine at the time of the

accident and were still causing pain. Examination of the back, however, was negative. The patient performed flexion and extension at the hips, knees and ankles, also external and internal rotation of the legs. No muscular atrophy and no spasticity. The pupils were equal. The left reacted slowly and in very narrow limits to light. The right reacted more quickly. Both pupils reacted in accommodation. The corneal reflex was present on each side. The left biceps tendon reflex was absent, the right present. Abdominal reflexes present. Both knee jerks were present and equal. No Babinski, Gordon or Oppenheim. Chaddock's toe sign was present on both sides. There was no disorder of the special senses with rough tests. No disturbance of skin sensibility discovered. Sense of position and motion was present in the toes and ankles.

Spinal fluid examination showed a lymphocytosis of 84. Noguchi butyric acid test xxx., fluid Wassermann xxx., blood serum Wassermann xxx.

Diagnosis: General paralysis of the insane with hysterical astasia abasia.

The patient proved to be very amenable to suggestion and was told that by proper training and exercises he would be able to walk. In his extremely elated state of mind he reinforced these suggestions and stated that his own determination could accomplish anything and overcome all obstacles. Each day he was given an electric cabinet bath followed by general massage. The first improvement noted was that he could walk by taking a position directly behind the nurse, placing his hands lightly upon his shoulders. With this assistance he would walk quite rapidly across the floor. The patient soon discovered that he could stand alone and then each day he was instructed to practice by taking very short steps. Emphasis was laid upon the fact that it was necessary for him to re-learn to walk and that this could be done in the way outlined. He became very proud of his accomplishment and every day it was noticed that he was walking more rapidly. At the end of a month his inability to walk had entirely disappeared and he was even able to attend dances. Except for a few weeks of inactivity following a slight injury to his knee, the patient has been walking naturally up to the present time, which is about nine months after treatment began.

The man is still in the hospital, as his mental condition is such that he cannot live at home. The dementia paralytica has remained stationary for about three months after the initial elation subsided. The physical signs of the disease have not multiplied and he is still an ambulatory patient. The mentality is not yet grossly impaired but delusions are still present, as well as emotional instability and childlike conduct.

This patient recovers his power of locomotion after being incapacitated for a period of eight years. Other means, such as drugs, Osteopathy, Christian Science, etc., had already failed and had been discontinued many months before his admission to the hospital. It is true that this change was brought about after the development of typical paresis but there was still enough mentality to be influenced by psychotherapy. The changes in the individual's personality, as a result of the organic brain disease, produced such an alteration in his previous habits of thought that the psychic readjustment, necessary for the removal of the hysterical symptoms, was comparatively easy. The patient was in very buoyant spirits and believed implicitly in his own power and ability to overcome all difficulties. In this mood he quickly grasped suggestions and carefully followed the physician's directions. During his sojourn in the hospital he occasionally developed

other symptoms which were easily removed by the same methods. He frequently had pains in the back, which were not girdle pains due to posterior root irritation, but something which he ascribed to the supposed injury of the ribs. These pains were easily removed by an examination and suggestive methods.

The disappearance of the neurotic condition was not due to the failure of memory so frequently found in this disease, as he had a very keen recollection of the various details of the difficulties encountered as a result of his infirmity. This he often described with a great deal of emotion. In other words the belief which had been so firmly implanted in his mind that he could not use the legs, was not obliterated by the pathological changes in the brain. The accident was often spoken of and he seemed to take delight in describing the disaster that had come to him as a result of it. He was very optimistic, however, and dwelt upon the serious nature of his trouble in order to demonstrate his present powers of recuperation. It illustrates how the emotional factor in a patient's constitution can operate for or against the recovery from neurotic symptoms.

Case II. (T. W. E.) Hysteria in a patient with spinal cord changes due to anemia. Admitted to the Livermore Sanitarium, June 28, 1915. The patient comes for treatment because of paralysis of the legs and inability to walk.

Abstract of History: Age 50 years. His occupation had been that of a merchant but lately he has not been very active in business. The family history is not noteworthy for any familial diseases. The father died of dropsy and one brother is eccentric. Before the present illness began the patient had no serious sickness aside from the ordinary childhood diseases and constipation, which latter has necessitated the habitual use of laxatives.

The present trouble began about three years ago following what is spoken of as a bilious attack. This stomach disturbance continued for a number of days and finally he became so weak that he could not work. To relieve the supposed abdominal trouble a gastro-enterostomy and appendectomy were performed. This operation was about a year and a half before his admission to the sanitarium. The patient made a fairly good recovery from the operation but his condition was not much benefited. He began to complain of numbness in the hands and arms, which later disappeared, but the same symptoms developed in the legs. The gastric trouble and constipation continued. He also had a few night sweats but has never had a cough or indication of pulmonary trouble. The sensory symptoms in the arms alternated with their presence in the legs, increasing in intensity and sometimes accompanied by prickling sensations. The legs gradually became helpless so that he was not able to walk at all for about six months before his admission to the sanitarium.

Physical Examination: At the time of the first examination the patient was apparently quite helpless, being unable to move about in bed without assistance. The general physical examination of the chest was negative. No cardiac abnormalities discovered except slight increase of dullness to the left. Systolic blood pressure 110. Diastolic 80. Urinalysis negative. Blood examination,—White cell count, 5920. Red cell count, 3,300,000. Hemoglobin 85%. Differential count,—Polynuclears 65%; small lymphocytes 29.4%, large lymphocytes 4.2%. Eosinophil 1.2%. No nucleated red cells. Some poikilocytosis. Red cells vary somewhat in size but no extreme types of microcytes or macrocytes. The large type of cell predominated.

Neurological Examination: The face was slightly wrinkled. He wrinkled the forehead equally well on each side and drew up the corners of the mouth without any indication of paralysis. Palpebral fissures equal. Extraocular eye movements normal. No nystagmus. No scanning speech. Tongue median and steady. No facial tremor. The pupils measured $2\frac{1}{2}$ millimeters in a moderate light. Both reacted to direct and consensual light stimulation; the left more actively than the right. Both pupils reacted during accommodation. Fundus examination negative. Disk was a trifle pale in color but the physiological cupping was not increased.

The musculature over the body was fairly well developed. No distinct atrophy. He performed all voluntary movements of the arms. No ataxia of the upper extremity. No intention tremor of the arms. No paralysis of the thoracic or abdominal muscles. When raised to the sitting posture in bed he supported himself and there was a normal amount of strength in the muscles of the back. The spinal processes were in proper alignment and there were no tender vertebrae. When the patient was first examined he was apparently not able to make any movement of the legs. When asked to move them he grasped the thighs with the hands, and in this way raised the feet off the bed. After being assisted to get out of bed and asked to walk he leaned far forward and pressed the toes tightly against the floor and remained standing while supported. When trying to walk he simply leaned forward, allowing the knees to flex with the toes dragging on the floor; typical astasia abasia. There was no atrophy or spasticity of the muscles of the lower extremity. When he was placed back in bed it was noticed that he moved the feet, performing external and internal rotation. His attention was immediately called to the fact that his muscles were not paralyzed. He was then urged to make an attempt to raise the legs without lifting on the thighs with his hands. The examiner held his hands slightly about the patient's toes and he was finally persuaded to raise the feet slowly, little by little, as the hands were raised, until he held them several inches above the bed. The right foot was not raised as high as the left. By means of another device the examiner succeeded in getting the patient to perform flexion and extension at the knees. The examiner grasped the muscles of the thigh, telling the patient that this assists greatly in movement, with which the patient immediately drew the feet well up on the bed until the legs were completely flexed. In this way it was finally determined that there was no paralysis of any muscle group except slight paresis of the extensors of the right foot. It was not possible to induce the patient to bring about much extension of the right foot. The knee jerks were both slightly exaggerated. There was a typical slow Babinski on each side.

Sensory examination did not reveal anything very noteworthy. The pain and tactile sensibility were present equally well on each side of the body. There was some confusion about the interpretation of tactile stimuli over the buttocks and perineum in the region of the distribution of the nerves from the lower spinal segments. No definite areas of anesthesia could be marked out, however. Vision and hearing were normal with rough tests. Sense of position and motion of the right great toe was entirely lost but normal in the left and normal in both ankles and knees.

Spinal fluid examination. (July 1st, 1915.) White cell count 3 per cu. M.M. Noguchi butyric acid test, negative. Wassermann reaction (August 16, Dr. Boalt). Serum Wassermann, negative. Fluid Wassermann, negative.

Clinical History: During the first week of the patient's residence he was in bed most of the time, receiving very little treatment while the various examinations and observations were being made. The organic nervous disease made a rather inter-

esting problem in diagnosis. The lesions were evidently central and in as much as multiple sclerosis could probably be excluded, they were looked upon as spinal cord changes produced by the anemia. This was not a typical pernicious anemia but it approached that type.

The treatment prescribed consisted largely of exercises, medication and diet to correct the anemia, and psychotherapy. The patient gradually became interested in the various muscle exercises and was surprised at the various things he could do. Of his own accord, he would spend considerable time every morning making the various movements of his legs. He talked a great deal about his inability to walk and was always afraid to trust himself to step off alone because of "weak back." He placed great emphasis on the fact that in the early part of the trouble, in attempting to walk he had fallen, injuring his back, which has since prevented him from standing erect and walking properly. This experience was very much in the patient's mind, as he often spoke of it. At the end of four weeks he had made progress in regaining the use of his legs. He was walking about on crutches, something he had not been able to do for a number of months. He stepped off with the left leg quite naturally and dragged the right. While sitting in a chair, however, he could raise this foot off the floor. The blood examination at this time did not show any improvement in the blood picture. The neurological condition had not changed except the improvement in gait. On some occasions he failed completely to move the legs but usually by strong suggestion he became more confident and was soon able to use them as before. The difficulty in using the right foot was very prominent in the patient's mind, and an examination, with the patient in bed, in regard to this matter, showed a distinct Hoover's sign of hysteria. That is, a failure to exercise downward pressure with the unparalyzed foot, when he attempted to raise the one which was paralyzed. The right foot was quickly raised from the floor when suddenly pricked with a needle. The Babinski sign was invariably found at all examinations.

Up until the time of the patient's discharge, four weeks after his admission, he gradually improved until he could walk quite well with the use of crutches. A report from him three months later was to the effect that he still used the crutches but was able to walk about the house and do much to help himself.

This is another case in which the leading symptom and cause of disability in an organic nervous disease was something apart from the real organic disease. The patient originally was not looked upon by his family as a nervous or hysterical individual. The process of development of the condition presented could be theorized in this way: The real disease centered the patient's attention much upon himself. In the beginning there were some real paraesthesias and some muscular weakness due to the cellular changes in the cord, probably produced by the anemia. These were strong suggestive stimuli to a mind already discouraged by sickness. These symptoms being always present soon caused the patient to restrict his activities, then to find reason for not being able to walk and finally produced a condition of complete helplessness.

One naturally hesitates to designate as hysterical, part of a symptom complex in the presence of a real organic disease. It would be more logical to explain, if possible, all disturbances of function on the basis of the discoverable histological changes. The case cited, however, cannot be en-

tirely analyzed in this way as the impairment of locomotion is entirely out of proportion to the evidence of disruption of the motor apparatus. The detailed study of the muscular power disclosed no real paralysis of any group of muscles used in walking. The patient was able to execute with fair amount of strength all voluntary movements of the lower extremities except extension of the right foot, and this was at times possible. The improvement in the patient's gait was brought about entirely by suggestion and persuasion as other measures produced no appreciable change in the evidence of the organic disease.

Although Case II was not entirely cured of the hysterical symptoms, the condition was so much benefited by the above methods that there is reason to believe that success would have resulted if treatment had continued a sufficient length of time. In treating the patient one often felt the need of some spectacular thing which would suddenly change his mental attitude to one of determination and cross the short distance between inability to walk and perfect power of locomotion.

This brings us to the discussion of the broader subject of the relation of symptoms both subjective and objective to the pathology of disease. Our two cases are definite examples of functional disorders complicating the clinical entity due to a known pathological change. There are undoubtedly many cases in which this combination is not so evident and not being properly interpreted, lead us into errors of prognosis and cause failure in treatment. Such problems are met not only in neurology but in all branches of medicine. The work of the gynecologists has taught us many such lessons. It is now well known that the correction of uterine displacements does not always relieve the nervous woman of the many symptoms attributed to this abnormality. In another field of medicine cases of nervous dyspepsia furnish examples of excess of symptoms over pathology. Such patients may have some real gastric disturbance which by attracting their attention to that particular function leads to the adoption of a restricted and exclusive diet invariably producing a chronic constipation with its train of symptoms. A splanchnoptosis may be an abnormality but the problem remains to determine the relationship that it bears to the disturbances of function. Is it not possible that our zeal to locate diseased organs by physical examinations causes an over-estimation of the significance of the lesions found and the assignment of the whole group of symptoms to something responsible for only a part of them? A close study of the symptoms is necessary, evaluating each one, arranging them in their proper order of importance without regard to the order already established in the patient's mind.

Another phase of the subject worthy of consideration is the study of patient's natural disposition, learning, if possible, something of the mental life antedating the illness. As yet little is known of the intricacies of mind development and the classification of personalities but we do know that some individuals react in a peculiar way to experiences that are common to all. Every episode

as it becomes associated in the mind calls forth a particular emotional state which is determined by previous experiences. This constitutes a reaction peculiar to the individual, but certain types can be recognized. Among these are those whose habits of thought are such that they lack the power of adjustment. The mind is so accustomed to reflex action that independent thought is replaced by suggestibility. Certain complexes are formed so that states of mind productive of somatic symptoms originate with the slightest stimulus. Many individuals live in comparative comfort with some serious organic disease present which does not lead to symptoms until, in some way, their attention is called to it. Those, whose mental makeup is susceptible, will then react in an abnormal way, producing a neurosis in addition to the real symptoms of the disease. It is in this way that symptoms, dependent upon real organic changes, can have a strong auto-suggestive influence and very appreciably alter the group of symptoms which, according to our knowledge of pathology, should really be present.

These ideas do not reveal any new truths, as it has long been recognized that the patient's faith in a physician is an important element helping to restore the individual to health. Instead of the physician depending upon the blind faith of the patient, it would be more scientific if the situation was clearly understood by both physician and patient. The symptoms should be thoroughly analyzed and psychotherapy employed not only in purely functional conditions but also in the incurable organic diseases. Many symptoms, which in the patient's mind are part of the disease picture but are in reality only neurotic disorders, could be removed. It is possible that chronic patients would be helped and sometimes relieved of distressing symptoms instead of drifting into the hands of the various cults and untrained healers. A case with grave organic lesions which we know cannot be cured often receives temporary benefit by such popular methods, much to the discredit of the medical man who has given the patient up as hopeless. The mechanism of this improvement is not understood by the laity so such a case is heralded as a cure and attracts other sufferers, having true psychoneuroses, which may then be cured permanently. The physician's neglect of the psychic element gives an opportunity for the frequent improvement of a tabetic when some new and spectacular treatment is used and the sudden ability of cripples to walk when visiting some famous shrine.

When failure is met in a patient with a neurosis we are led to ask ourselves what more can be done to change the mental attitude of a patient towards the symptoms which should, but do not, respond to psychic treatment. A brain injury such as in Case I cannot be produced for this purpose nor can one always induce an emotional shock which, as is well known, alters a mental state, causing a neurosis as quickly as it will precipitate such a condition in a person predisposed to such a transformation. It is possible, however, to cultivate the benefit derived from a judicious manipulation of the patient's emotional

life. The fundamental instinct, i. e., preservation of life, is often in a way unknown to the patient, the basis for many neurotic disorders. The fear that the particular symptom portends a fatal disease causes the patient to keep alive the inhibition of functions which constitutes the manifestation of disease. The assurance that the particular disorder has no serious import and reiteration of this assurance creates hope and such a changed state of feeling, that a definite therapeutic response can be elicited. Each patient requires individual study in order to determine the particular mental complex which is producing the symptoms and work out the method of psychotherapy which will enable the patient to make the proper mental adjustment.

In conclusion then, the two cases reviewed should call attention to certain facts which may be summarized as follows:

1. Psychogenic disorders may co-exist with organic disease.
2. An organic disease may declare itself during the course of a functional ailment and greatly confuse the symptom complex or the order may be reversed, in which case the organic disease may have a strong auto-suggestive influence and produce psychogenic symptoms in an individual so predisposed.
3. More information is needed concerning the relation of pathology to function so that psychogenic factors may be recognized.
4. The treatment of psychic symptoms found in combination with an organic disease by suggestion and persuasion, is next in importance to the diagnosis as the major disability may be removed in those cases in which the real disease is producing slight disturbance of function.

Discussion.

Dr. Podstata: Mr. President and Members of the Society. It would be a serious blunder, should we begin, in any case under our observation, with the assumption, that the psychogenic factors are of greater importance than the organic factors. After all, material etiology and pathology constitute the foundation upon which rests the science of medicine.

However, it is almost as great a mistake to neglect the mental part of the biological unit, called man. The psychic sphere is a part of him and reacts upon the other. As surely as toxic agents in the blood produce certain changes in the nervous system; as an injury will produce structural changes in the brain and the spinal cord and through it a change in the mental or nervous functions—so also an emotional strain may produce not only a temporary change in the functional mental activity, but it may actually change the protoplasm and indeed the nucleus of the neuron. The work of Crile and of other men has demonstrated, beyond any question, that fright, or any severe emotional strain, may kill a nerve cell as effectually as does direct poison.

In considering the important psychogenic factors it is best to classify them. First of all we have to consider "personality." By personality I mean, in this instance, the particular type and capacity for reaction of an individual to his surroundings, including somatic impressions. This reaction is frequently inadequate or abnormal.

Professor Adolf Meyer classified a number of these abnormal reaction types, the individual make-

ups of personality. To analyze all these types fully would lead us too far away from the purpose of this discussion. It may be well, however, to bring to your attention some of the more common of the abnormal reaction types. After considering these you will agree that an organic disease, in a patient with some such abnormal makeup, will develop a decidedly different picture than in a normal individual.

First of all, and the most common, is the abnormal reaction type, which Dr. Mack referred to first—the psychasthenic and neurasthenic makeup. You are all too well acquainted with that type to require any detailed description of it.

The second type to be mentioned was referred to by Dr. Mack in his second, the hysteroid, case. In this makeup the emotions produce very powerful physical reactions, paralysis, motor and sensory, spasms, etc.

The third type has been designated by some, particularly by Dr. Moore of Los Angeles, as the shut-in makeup. It is quite a common type of personality. The person is found shut-in within self, retaining impressions with little or no immediate reaction. There is present a strong, shut-in emotional element, which later results in abnormal or perverted mental and physical activity.

There are other makeups, such as the explosive, the emotional oscillating, etc. They are often important, but we have not the time to discuss them.

In the second group of psychogenic factors, we have to consider the early influence of training in the family; the influence of education; the later influence of the struggle for one's existence. All these undoubtedly leave a great impression. They may modify the original inherited traits; at any rate, they complete the formation of personality.

Last of all we have to consider the so-called psychic traumas, of which we have an instance in the second case of Dr. Mack. There fright took possession of the patient and resulted in a paralysis, or at least, an increase in paralysis, through the influence of the emotion.

By recognizing these factors we can frequently clear up a case, which would otherwise be rather difficult. I do not believe a physician can better employ his spare time than by the study of psychogenesis in disease. The patient may not necessarily come to us with a nervous or mental disease. The course of any illness may be distorted as a result of various psychic factors, which cause an abnormal reaction of that individual to the given stress.

As we further develop the study of the individual reaction types, we shall be able to predict, approximately, what the individual will do under certain conditions. Also we shall be able to early discover abnormal tendencies in the development of personality.

I believe the time is near when every unusual child will be submitted to an analysis, a systematic search for the fundamental elements of the reaction type it presents. The results should be recorded in a comprehensive way, perhaps by means of a chart. Then when a large number of such studies is available, valuable deductions may be possible. I am now engaged in work of that kind. The difficulty is in the matter of recording, but undoubtedly a good way will be found.

Some such analysis will enable us to predict what dangers the child is especially exposed to and what reaction is likely to take place if certain harmful influences are met with. Therefore, it may aid us in the prevention of actual mental and nervous breakdowns and in the alleviation of much suffering.

At any rate, the greater will be our understanding of the original traits, mostly inherited; the more we shall know of the influences which the individual was exposed to from the earliest childhood up; the better will be our understanding of the various psychic traumas inflicted upon our

patient, and among these we should especially note the emotional strains and sexual experiences,—the better we shall understand the situation and the symptom complex, and the more we shall be able to do for the patient.

Dr. Jau Don Ball: Mr. President and Members of the Society. The paper presented by Dr. Mack tonight, to my mind, certainly is a very valuable contribution to the science of psychiatry. Dr. Mack points out the faults that a great many of us are prone to overlook in our conduct towards our patients. Especially, are we entirely too apt to consider our patients suffering from organic disease as disease entities and without emotions and incentive actions. It is just as important to consider the mental or psychological side of patients as the physical.

Regarding Dr. Mack's conclusions based upon his cases, I can but add that it is also desirable that more information be gathered regarding physiological psychology which really is a problem of the sources and direction of psychophysical energy. The present-day aim is to determine the physical basis of processes of mentation. Accordingly, every process of ideation and incentive action implies the presence in the nervous system of a very complex, highly organized apparatus. Recent research seems to point to the basal ganglia and optic thalamus of the brain as the seat of such mechanism.

Dr. Mack's first case reminds me of a patient I had a number of years ago in consultation with Dr. Hamlin at the County Hospital. This patient, a Portuguese, was loading boxes of fruit into a box car, carrying boxes on his shoulder, and entering the box car from a platform. In the center of the car there was a hole in the floor. The man was walking around the hole, carrying the boxes until the car was filled approximately up to the opening in the bottom of the floor of the car. Finally, the man fell through the opening, catching on his shoulders. The weight of the boxes bore on his right shoulder, he was pulled through the hole, and was apparently paralyzed from the hips down—paraplegia, and also the right arm was paralyzed. He was taken to the County Hospital. Examination did not reveal any organic nervous changes. The question was, inasmuch as the injury was apparently rather severe—falling through an opening—whether or not there was some actual organic change, but the neurological examination was practically negative. Except for the increased reflexes the man was utterly unable to move the lower extremities or the right arm. On account of his inability to understand the English language, it was most difficult to suggest anything to him or to treat him. It was suggested, however, that he be given an anaesthetic to determine definitely whether there was an injury there, and accordingly he consented. Ether was administered, and during the excitement the extremities moved about freely. On the following attempt to repeat the demonstration, he became very much excited and voluntarily moved his legs and arms. The patient received his damages from the railroad, and I understand later improved. I have not heard from the case since. I mention that as a point because Dr. Mack in one case mentions a railroad accident and the neuroses occurring prior to the development of the organic disease. In this individual, it certainly would have been possible to develop a paresis if he had the germ of syphilis in his blood. Whether or not the neurotic or hysterical symptoms were present before the accident occurred to this man, we cannot say. In every individual suffering from hysteria or neurosis, we must take into consideration the triangle of life as we are wont to understand it: for example, heritage, environment, and education. We depend upon heritage, or heredity, to give most of our cases of neurotic tendency, environment and education, of course, influencing the individual. And as Dr. Podstata has mentioned in his discussion, with a careful study of these cases, especially in

children, from the standpoint of heredity, environment, and education, we ought to be able to recognize the types and prevent future development of nervous and mental diseases by proper early treatment and education and improving the heritage of the individual.

Dr. W. H. Strietmann: I do not think there is much to add to what Dr. Mack has said except to emphasize in a general way what has come home to me recently more than ever before. That is, we have, as men who are practicing medicine outside of the specialty of nervous diseases and psychiatry, absolutely neglected that field. It is something that should be presented to us in popular form. We have to be re-educated along that line. Recently I have been very much interested in Dubois' work on nervous diseases. It seems to me a very popular exposition of the things that we really ought to take unto ourselves. Among other things, Dubois points out, and I think very clearly, that the psychic phenomena are really a part of biology. It is a question whether we should use the term of psychophysiology or physiological psychology—whether the whole thing is not really a biological thing. We know that the lower animals, the amoeba, for instance, will react to stimuli of various sorts, a shaft of light, mechanical irritation, or what not. Of course, those are reflexes of a very low order. They are present in the human as well, but in the human there is the added feature of a mentality which the lower organisms do not possess. But I think it is reasonable to believe that everything we do, and I consider that is the general consensus of opinion among psychologists, is not done of our own free will but is done by reflex action, some response to an external stimulus. If that is true, it belongs in the domain of biology; and if it is we as physicians ought to be very much interested in it. Very frequently we meet with cases that have no definite lesion. Since I have been here, I have found a great many cases of gastroparesis and enteroptosis. As I think it over there is frequently a question whether or not they are functionally in bad shape. These patients with gastrointestinal trouble seem to do their work except for a colonic stasis, and while by treating them mechanically we do get some results, I wonder whether it is not very largely due to the fact that we are treating them also in a psychic way, very largely unconsciously. I do not know but what there is a great deal in that particular factor. Certainly, a definite percentage of the cases that we see do not improve by the ordinary mechanical things we do for them, for instance, a regulation of diet, and so on. Such cases should go to the psychologist.

We should have a little more popular material brought to us from this branch of medicine, and personally, I should be very glad to see it.

NEW SAN FRANCISCO HOSPITAL.

By DR. R. G. BRODRICK, Superintendent.

The new San Francisco Hospital is maintained by the city and county for the treatment of its sick poor. It is under the control of the Department of Public Health, which consists of a commission of seven members, four of whom are laymen and three physicians.

With the completion of the new general hospital, at an approximate cost of three and one-half million dollars, derived from the sale of bonds, San Francisco will have one of the finest and handsomest institutions of its kind in the United States. The hospital, when completed, will accommodate

about 1,000 patients; hence the cost per bed amounts to about \$3,500.

The late Mr. Newton J. Tharp designed the buildings and chose for the location of the main group the frontage facing Potrero avenue, a broad avenue on which is operated the municipal car line.

The hospital is located in what is known as the "Warm Belt" of the Mission, at the edge of the most thickly populated district of the city; it is situated on a rising elevation and covers four city blocks, 866 feet long and 760 feet wide. The tuberculosis and infectious groups will be situated on higher ground on the easterly portion of the property.

The buildings are so arranged that there is ample light and plenty of ventilation around each particular unit. In general, the type of construction is what is known as the corridor-pavilion, the buildings being connected by a main corridor in such manner that one can go from building to building without exposure to the elements.

The Italian renaissance style of architecture has been followed in designing the buildings, which are of the finest Class "A" fireproof construction possible for human skill to produce. The foundations are of concrete, waterproof and under-drained. The floor and roof construction is of reinforced concrete. The flooring throughout the offices and bedrooms in the administration building and in the nurses' home is of maple; in the wards and in the bedrooms of the service building the floors are covered with battleship linoleum cemented to the concrete. The operating rooms, treatment rooms, toilets, laboratories, etc., are finished with tile, and the floors of all corridors are of terrazzo. The exterior walls are of brick of rich color, laid in a very beautiful way, with terra cotta trim.

The grounds are extensive and present a park-like appearance, having been laid out by Mr. John McLaren, the well-known designer of the beautiful gardens of the Panama-Pacific International Exposition, the entire area being enclosed by an iron grill fence and lighted at night by about forty ornamental electroliers.

The interior finish has been given careful study. All angles are rounded; baseboards are finished with sanitary cove; window-sills generally are of marble; all door and window frames are of wood; the doors are smooth and flush, without panels, and are painted with five coats of cream enamel paint, except in the administration building and in the nurses' home, where the doors are of quartered oak, natural finish; the plastering is of Keene's cement throughout and is covered with three coats of paint of a light buff color. The plumbing fixtures, of which there are over one thousand, are of vitreous ware; all pipes are placed in vertical pipe racks in such a manner as to be within easy reach when necessary.

Plate glass has been used in all windows, with the exception of a portion of the service building, power plant and laundry, where the panes are of sheet glass. All of the windows are covered with bronze screens.

The main group consists of ten buildings, begun in 1910 and completed May 1, 1915, when it was officially opened for the reception of patients. It has accommodations for 512 patients and is so constructed that 752 beds may be provided if found necessary. The main entrance is in the center of the Potrero avenue frontage, and persons entering or leaving the grounds are compelled to pass the gate house. The approach from the main entrance to the administration building is impressive, consisting of a series of terraces and stone stairways, on either side of which are lawns and flower beds. Provision is also made for ornamental fountains.





EPIDEMIC CEREBRO-SPINAL MENINGITIS. Report of Case with Interesting Complications.

By WM. B. SMITH, M. D., Los Angeles.

C. R., cook, age 26, was admitted to the Portis and Vaughn medical service of the Cook County Hospital on March 22, 1914. He was sent in from the examining room for diagnosis.

Examination on entrance showed a fairly nourished young white man in a semi-comatose condition, and no history was obtained at the time. Later he stated that he had been sick for four days before admission with headache, fever and general malaise. He had convulsions soon after entering the ward with limbs rigid, head thrown back, stertorous breathing, and sweating. He could be roused, but sensorium was much clouded.

Pupils equal and react to light.

Teeth show moderate pyorrhea.

Tongue coated but not bitten.

Ears negative.

Neck shows distinct rigidity and patient constantly puts hand to head as if aching. No appreciable cervical adenopathy.

Lungs negative.

Heart negative; pulse 80 to 90 on entrance.

Temperature 105 degrees.

Abdomen negative, but patient vomited several ounces of dark green slime during examination. This was not projectile.

Genitalia show small meatus, 16 F catheter will not pass.

Extremities: Kernig sign is positive especially on the right; Babinski sign present on both sides.

Tache cerebrale is positive.

Spinal puncture on entrance gave purulent fluid under considerable pressure: 16 cc. were removed for diagnosis.

Examination of fluid: Noguchi and Nonne tests were both positive; cell count gave 1900 per cmm., practically all polymorphonuclear leucocytes; great numbers of intra and extra cellular diplococci were present.

White blood count gave 18,400 per cmm; Dare gave Hb. of 80%.

8 p. m. of same day second puncture was made, 40 cc. of purulent fluid were removed, and 30 cc. of Flexner's serum injected.

Urine exam. showed albumen, a few hyaline and granular casts Sp. Gr. 1.020.

Course. During the night of March 22, temperature dropped to 99.8 at 11 p. m.

March 23—Patient was irrational again and temp. went up to 102. A second dose of 30 cc. Flexner's serum was given after removal of 36 cc. of spinal fluid; fluid was cloudy and showed 4000 polymorphonuclear cells per cmm. Intracellular diplococci were numerous. No growth on glucose agar.

March 25—Patient answered questions intelligently. Right pupil dilated, left pupil normal. Left wrist shows red and exquisitely tender swelling. Knuckle joint of right middle finger is red and tender.

March 26—Patient stuporous. Temp. up to 104. Sweats profusely.

March 27—Left knee swollen and tender. 50 cc. spinal fluid removed, and third dose of Flexner's serum injected. Spinal fluid was still cloudy but no organisms were to be found.

March 29—Patient brighter, says he cannot see out of left eye. Left knee more swollen and fluctuates above the patella.

March 30—Left knee was aspirated, 70 cc. of purulent fluid removed which contained the diplococci in great abundance. 15 cc. Flexner's serum were injected into this joint.

April 1—Patient complains of aching of the left knee. Left eye shows conjunctivitis, iritis, and flocculent exudates into the anterior chamber. Cannot see at all with this eye. Eye exam. by Dr. E. V. L. Brown: Left plastic iritis with reduction of vision to light and shadow. Advises pushing the atropine medication.

April 4—Some frontal headache especially over the left eye. Fluid is disappearing from the knee. Patient looks and acts well. Temp. 99 degrees.

April 7—Patient says he feels bad. Left shoulder is very lame. Nervousness is marked. Temperature 101 degrees. 30 cc. Flexner's serum were given at one dose intravenously. The injection was followed at once by burning sensation over the whole body, with some excitability of the patient; 10 minutes later he had a chill lasting 20 min.

April 8—Skin of arms and trunk shows small pink urticarial rash. Left pupil dilated slightly, anterior chamber clearer.

April 16—Patient continues to improve steadily. Has been allowed to sit up in chair. Left knee somewhat stiff. Left eye shows posterior synechiae, and vision restricted to light and shadow. Right eye normal. Feels fine and is very hungry.

April 22—Patient walks about the ward and helps the doctor with the laboratory work. Temperature remains normal. Left knee somewhat stiff

and gives grating sensation to palpation, but gives him no trouble on walking.

April 25—Patient allowed to go home.

This case is reported because of the interesting complications and because of the author's earnest belief that all of them might have been averted by a more determined pushing of the serum medication.

It will be noted from the record that the patient received 90 cc. of Flexner's serum in five days, and later received 15 cc. into the knee joint, and 30 cc. intravenously. It is true that the patient recovered with the loss of vision in his left eye, and a pathologic knee joint, and for his recovery we were truly thankful then, and are still. But this same case would be treated now with two full 30 cc. doses the first 24 hours and a dose daily thereafter until all symptoms had subsided.

A review of all histories of cases diagnosed as epidemic cerebro-spinal meningitis in the files of the Cook County Hospital, in which Flexner's serum had been used, revealed some very interesting facts relative to the need of early and intensive serum therapy.

The records gave data on 43 adults (over 15 years of age) and 13 children.

Adults—Group 1. Sick one to four days before admission to the hospital. There were seven in this group who received serum to the varying amounts of 60 to 140 cc. during periods of from two to 10 days. These gave recoveries of 71.4 per cent., and fatalities of 28.6 per cent.

Group 2. Sick from six to 30 days before admission. There were 36 in this group who received serum to the varying amounts of 30 to 270 cc. depending on the length of life after admission. These gave recoveries of only 2.7 per cent., and fatalities of 97.3 per cent.

Children—Group 1. Same as group 1 above. There were 10 in this group who received serum in varying amounts from 15 to 120 cc. during periods from two to eight days. This group gave recoveries of 50 per cent.

Group 2. Sick from six to 14 days before admission. There were three in this group who received serum 30 to 100 cc. in periods from one to 11 days. This group gave recoveries of 33 per cent., and fatalities of 67 per cent.

Conclusions—1. That epidemic meningitis, in these records at least, is more fatal to children than to adults.

2. That the percentage of fatalities increases directly with the length of time the patient is sick before serum therapy is inaugurated.

3. That the plan of administration carried out in practically all these cases, that of giving one dose of serum and then waiting for development of symptoms before giving additional doses, is disastrous in its results. Personally I believe that the cases sick under four days should give recoveries of over 90 per cent., where serum therapy is pushed at least to the point of one 30 cc. dose every day, until temperature is normal, spinal fluid is clear, and all other symptoms have subsided.

SOCIETY REPORTS

SACRAMENTO COUNTY.

The regular May meeting of the Sacramento Society for Medical Improvement was called to order 8:50 P. M. by President J. H. Parkinson.

Minutes read and approved.

Drs. Young, Lyman and Crawford were formally introduced to the Society by the President.

Cases reported:

Ambic Abscess of Liver by L. G. Reynolds.

Cancer of Liver in pregnant woman of 27 years, by A. M. Anderson.

Paper of the Evening: History Organization and Aims of the United States Public Health Service by J. R. Boggess, Surgeon in charge, San Francisco, Cal. Discussed by W. J. Hanna.

Application of C. L. Bittner read.

Report of Delegates from the State Society made by Drs. Gundrum and Jones.

Dr. Parkinson appointed the following committee: On the part of this society should take in the general scheme of preparedness and the participation of women in connection therewith.

W. J. Hanna, Chairman.

E. S. Loizeaux, G. Parker Dillon.

On the question of publicity of matters professional in the daily papers in connection with the County Hospital and the best means of using the influence of the Society to prevent its recurrence not only in connection with that institution but in all cases where the very desirable privacy attending the relations of the physician and his patient have been improperly and unnecessarily invaded.

T. J. Cox, Chairman.

A. C. Hart, G. L. Stevenson.

Adjourned.

F. F. Gundrum, M. D. Secretary-Treasurer.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held Friday evening, May 26th at the residence of Dr. Charles R. Harry. The following members were present: Drs. H. E. Sanderson, S. P. Tuggle, H. Smythe, D. F. Ray, Minerva Goodman, R. R. Hammond, H. C. Petersen, L. L. Dozier, Mary Taylor, C. R. Harry, C. F. English, B. J. Powell, R. B. Knight, W. F. Priestly, E. A. Arthur, J. V. Craviotto, W. J. Young, R. T. McGurk, J. D. Young, H. J. Bolinger and D. R. Powell with Dr. William Watt Kerr of San Francisco as guest of the evening.

A very instructive paper on "Cases Illustrating Some Types of Arterio-Sclerosis" was given by Dr. Kerr. As the doctor wished to return home the same evening, the discussion by the members was cut short in order to allow Dr. Kerr to make the closing remarks.

After a short recess, the meeting was again called to order to hear the reports of the committees and adjourned to partake of delightful social repast.

DEWEY R. POWELL, Secretary.

The regular monthly meeting of the San Joaquin County Medical Society was held Friday evening, June 30th at the Receiving Hospital of the Stockton State Hospital.

Those present were: Drs. E. P. Clark, S. P. Tuggle, J. D. Young, R. R. Hammond, Margaret Smythe, W. W. Fitzgerald, C. F. English, J. T. Davidson, R. B. Knight, W. F. Priestly, Mary Taylor, Minerva Goodman and L. Dozier with Dr. Williamson as guest.

The Committee on Admissions reported favorably on the name of Dr. Warren T. McNeil and he was elected a member of the society.

The papers of the evening were presented by the staff of the State Hospital, each member taking up one type of insanity and presenting a clear con-

cise picture of the various types and illustrating them with patients.

The bountiful supper held the members until after midnight and made them feel some truth in the saying that "It is great to be crazy."

LINWOOD DOZIER, Secretary Pro Tem.

SAN DIEGO COUNTY.

Dr. Thomas Coe Little read a paper on "Infectious Psychosis."

The Society has begun its work preliminary to the State Society Meeting by the appointment of the following committees:

Committee on General Arrangements—Drs. John C. Yates, Robert Pollock, Alfred H. Byars, H. C. Loos, A. E. Banks, J. D. Long.

Committee on Publicity—Drs. O. G. Wicherski, Thomas Wier, B. Crise, Carl Owen, B. J. O'Neill, T. A. Parker, J. A. Parks.

A special meeting was held July 11th. The subject of the evening was "Anterior Poliomyelitis" and consisted of:

What we know about the

Etiology.....Dr. R. J. Pickard

What we can do to keep it

out of our community....Dr. P. M. Carrington

What we can do to prevent its

spreading.....Dr. F. H. Mead

The possibility of an early

diagnosis.....Dr. R. L. Doig

Initial points in treatment... { Dr. O. G. Wicherski
Dr. H. C. Oatman
Dr. H. B. Wilson

SANTA BARBARA COUNTY MEDICAL SOCIETY.

The regular meeting of May 8, 1916, was a joint session with Ventura County Medical Society, and was preceded by a dinner at the Arlington Hotel. Present from Ventura County: Drs. Herbert, Mott, Merrill, Avery, Peek, Korts, Homer, Jensen and Osborne; from Santa Barbara County, Drs. Barry, F. A. Brown, Flint and Stoddard; visitor, Dr. F. A. Stoddard of San Francisco. The joint session of Santa Barbara and Ventura Counties met for a purely clinical session in the large operating room of the Cottage Hospital (by courtesy of the superintendent, Mrs. Hurdley). Present from Ventura County, Drs. Mott (State Senator), Merrill and Herbert of Santa Paula; Avery, Peek and Korts of Oxnard; Homer and Jensen of Ventura, and Osborne of Fillmore. From Santa Barbara, Drs. Stoddard, R. Brown, P. J. Cunnane, W. B. Cunnane, Campbell, Wells, Pierce, Ryan, Stevens, Flint, Barry; F. A. Brown, Lompoc. Visitors: Drs. Allen (D.S.), Lyman (D.S.) and Gill, Santa Barbara; and Dr. T. A. Stoddard of San Francisco, a total attendance of twenty-five persons. Clinical material of interest and variety was brought forward, and the session proved in every respect instructive and successful. The hospital authorities served refreshments, and with a vote of appreciation, the meeting adjourned until August, when the two societies plan to meet again at Ventura.

The Santa Barbara County Medical Society met in regular monthly session at the Arlington Hotel on Monday, June 12, 1916, at 8 P. M. The meeting was called to order by the President, Dr. C. S. Stoddard, the Secretary, Dr. William T. Barry, at his desk. Present: Drs. Barry, R. Brown, Burkard, Clarke, W. B. Cunnane, Flint, Low, Merrill, Loveren, Pierce, Ryan, Stevens, Stoddard and Wells; visitors, Dr. Philip J. Cunnane and brother (a medical student), a total of fourteen members and two visitors. The minutes of preceding meetings, April 10 and May 8, were first read and approved (the latter a joint clinical meeting with Ventura County). The

chair next called for clinical cases. Dr. Barry responded with a report of acute tonsillitis accompanied by a very rapid pulse (140), the tachycardia being associated with an old goiter history. Dr. Wells, in reference to Dr. Barry's case, remarked that in his experience the removal of the tonsil had a remarkably salutary effect upon the enlarged thyroid gland. Dr. Merrill mentioned a case of facial nerve paralysis connected with disease of middle ear due to pressure upon nerve by a polypus. The doctor exhibited a beautiful anatomical specimen of cranium and face illustrating the pathology of his case. Dr. Merrill also gave two other clinical reports. One, the effect of anilin from the indelible pencil reaching the eye. Being very diffusible and caustic, anilin produces a violent and destructive inflammation, sometimes necessitating the surgical removal of the affected optic (as in the cases cited of two school children in Baltimore, Md.) School children seem the more frequent sufferers from anilin injury. Dr. Merrill stated that prompt action was required in its removal from the eye. The Doctor's third case was that of a sarcoma filling posterior nares in a patient; fatal ending. After these clinical reports the Chair called for Dr. Campbell's report as Delegate to the 1916 Session of the State Medical Society at Fresno. This proved very interesting and was given careful attention. Then came the scientific paper of the evening—"Physiology of the Intestinal Movements and Defecation" by J. Manning Clarke, M. D. This was a splendid and carefully prepared contribution to internal medicine as related to the intestinal tract, and at its conclusion brought forth a round of applause. After Dr. Clarke's paper the Society went into executive session and elected to membership Dr. Philip S. Chancellor and Dr. Philip J. Cunnane, both of Santa Barbara, and ordered upon its roster Dr. J. Manning Clarke who presented his transfer from Los Angeles Medical Society. There being no further business the Society adjourned.

WILLIAM T. BARRY,
Secretary.

EYE AND EAR SECTION, LOS ANGELES COUNTY MEDICAL ASSOCIATION FOR APRIL 3, MAY 1, AND JUNE 5, 1916.

Minutes of previous meeting read and approved. Attendance and visitors: Drs. Brooks, Brown, Church, Dudley, Detling, Ellis, Fleming, Griffith, Graham, Ide, Kress, Leffler, F. W. Miller, R. A. Miller, Montgomery, Old, Reed, Stivers, Sweet, Svetnam, Tholen, True, Edwards, Davies. Dr. Church read his paper "Sarcoma of the Choroid."

Necessity of early diagnosis and the danger of mistaking neoplasm for simple retinal detachment.

Discussion.

Dr. Detling: I have seen a number of cases of sarcoma of the retina; I had one a year ago and saw 26 recently in clinical work. Dr. Church has covered the subject fully. He reports the tension is always increased; it is sometimes reported lessened. I once had a case of the latter. I used the X-ray. Dr. Soiland declared there was a shadow of a tumor present at that time, after lapse of time he is not so sure of it. Dr. Bowman, another X-ray man, said that this sarcoma showed no shadow. I asked Dr. Dixon of New York about X-ray and he said it was of no value.

Dr. F. W. Miller: Diagnosis of sarcoma is a difficult matter from the appearance of the detached retina as to whether it is a simple traumatic or sarcoma, generally cannot be differentiated. Transillumination is of value, many eyes are enucleated and no sarcoma found. In children we have glioma

and in adults leuko-sarcoma, which being white is less apt to show a shadow.

Dr. R. W. Miller: All my cases have been associated with plus tension; I have used transillumination and diaphanoscope with good results, especially in melano-sarcoma.

I had a case of a man throwing a switch, struck his head on the left temporal region. I saw him the next day and he said he had lost vision in the left eye. A fellow workman thought he removed some foreign body. Tension was normal, responded to light. There were two blood clots suspended from the upper nasal quadrant.

On roll call cases reported as follows:

Dr. R. W. Miller: James B. K., age 35, Santa Fe Railroad, Feb. 18, 3 p. m. While driving a spike the head broke off and struck patient in the left eye, the eye bled and there was much pain. He says the whole head of the spike lodged in the upper eyelid. Vision of the right eye 20-20's; vision of the left eye, sees the fingers at 20 feet, although he cannot make up 22/100's. March 3rd, Doing well. Vision of the left eye 20/40, has pressure on the choroid on nasal side of the nerve head. March 20th, Vision right eye 20/20's; left vision 20/40's plus $\frac{1}{4}$. Says he noticed small scotoma on the lower left side field.

March 25th, needs glasses for reading. Nasal side of fundus and left side of field of the left eye are hazy.

April 3rd, eyes are quiet.

Dr. Dudley: In a certain percentage of these sarcoma cases we get a lack of transparency of the media, which makes it impossible to make a diagnosis, but we know something is cutting off the light source, but certainly in early cases there is a limited circular detachment; also in melano-sarcoma there is a mottled appearance diagnostic of this condition; we never should forget that a tumor mass may be behind a retinal detachment.

Dr. Sweet: I had a case recently which had been under Christian Science treatment, came in for a throat examination, complained of eye, examination of the eye showed tumor in the temporal region, white in color, patient also had metastasis of the liver, she only lived three or four weeks.

Dr. Church in closing said Fuch speaks favorably of transillumination. There will usually be no increased tension unless the secretions are dammed up. I would not enucleate the eye for glaucoma, but we will not regret always if we remove some eyes that are not sarcomatous if in the removal of many eyes we do remove some sarcomatous and thus prolong the life of many of our patients.

Dr. True: Neuropathic-keratitis; G. W., age 35. Had previous attacks 12, eight and four years ago, or every leap year; is afraid some woman will propose to him. His attacks last about four weeks, this one lasted two weeks. The nasal side of the cornea presents total anesthesia; ulcers which were quite extensive closed only four days ago. Can further attacks be prevented? This patient shows scars of previous ulcers.

Case 2—Ophthalmo-malacia. J. C. age 18, previous attack six years ago. Excessive school work at that time. Present attack began ten weeks ago. Eight weeks in bed with great photophobia, pain and nausea, tension was below minus three in both eyes. Tension of the right eye markedly low.

Interesting fact is that prior to attack for several days patient had attended moving picture shows all day long, beginning after breakfast and extending into the night.

3rd case—Severe trauma with various results.

Dr. R. W. Miller: Case 1; breaking coal with shovel. Large piece of coal hit him in the eye, producing immediate great swelling and a nearly unconscious state for a few moments. Examination—large corneal ulcer at seat of injury. Treated and held for 17 days in hospital. Now scar of corneal ulcer; small particle of coal or pigment in anterior capsule of the lens, pale fundus, large choroid tear extending upward and inward; vit-

reous opaque masses below and back of lens. Vision—counts fingers when down and in at eight inches.

Application of Dr. Davies was referred to Secret Membership Committee.

Invitation to Dr. H. E. Harrower to speak on Endocrinology to the Section in May was extended.

Dr. Lloyd Mills was unanimously elected to membership.

C. G. STIVERS, M. D., Secretary.

Meeting of May 1, 1916.

Attendance.

Drs. Bullard, Brown, Dudley, Detling, Fleming, Griffith, Graham, Harris, Lund, T. J. McCoy, Montgomery, Roberts, Stivers, Sweet, Swetnam, Kiefer, Mills.

Visitors: Drs. Bogue and Harrower.

Dr. T. J. McCoy reported a case of double cataract operation. He also showed a specimen from an eye case of Dr. Bogue of the County Hospital, which proved to be glioma in a child. It was a massive growth in the right eye showing much difficulty in dissection, located at the optic entrance.

Dr. Rogers said he had had a case of glioma, enucleated it about 11 years ago, in a year afterwards it returned in the other eye. Her history was followed over several years when she was in good health. Dr. W. H. Roberts showed a case of syphilitic gumma and reported a case of iridocyclitis with a specimen.

Dr. Harrower read his paper entitled "Connecting Links between Endocrinology and Otorhinology."

Discussion opened by Dr. Dudley. He said he had lately revised his former opinion of the value of endocrinology, having formerly considered it of not much value but recently having considered it of more value in our special line of work. He asked Dr. Harrower: if the age of the patient was any criterion as to the usefulness of the internal secretions? Doctor's answer: Yes. The first hard blow, such as infectious disease, starts something in a child, also at puberty is another strain time, when we usually have thyroid hypertrophy or insufficiency, and also at the climacteric. Most ductless glandular affections are in children, as in children requiring special attention—which is a polite phrase for deficient children—showing otorhinolaryngo symptoms, should have the internal glandular secretions looked into.

Dr. Frank Bullard: I had a case of a girl with adenoids and defective vision and irritable temper. I gave her glasses, she had marked scleroderma. I gave her thyroid extract, the scleroderma disappeared and leucoderma appeared. The child is now increasing in weight and is not so nervous.

Dr. Brown: We are glad to have the views of a specialist in another line than our own. I had a clinical case with hypertrophied thyroid. I recommended T & A operation and gave thyroid extract three months, also T & A operation, the child made marked improvement.

3rd case: Chronic antrum in which I did the Krause operation which improved the conditions but it never was entirely well until a large thyroid gland was operated on, just afterwards the entire nose symptoms disappeared.

4th case: Pan-sinusitis, had them all opened up but never got entirely well until the thyroid gland was removed. Dr. Geo. Cott of Buffalo said it was astonishing how many cases of nose and throat trouble improved after removal of the thyroid. Dr. Woods of Philadelphia reports a case of Dr. John Musser in which the tonsils enlarged after every tonsillitis. The tonsils were removed with some improvement but renewed attacks of tonsillitis sent the patient back to the surgeon, who saw that he had left the upper pole of one tonsil; this was removed and the case recovered fully.

Dr. Harrower said the thyroid is of great importance as a detoxicating agency. He reported a case, a woman, with painful menses, curettage was recommended and refused, she took thyroid extract and corpus luteum, but not much improvement; I learned that she had bleeding gums and found a tonsillar endamebiasis and ipecac was given. The dysmenorrhoeas disappeared. The thyroid regulates the gonad action. This patient had a mouth condition causing a thyroid dyscrasia, and when the mouth condition was cured the thyroid began to function normally and the sexual system followed in its improvement.

Dr. Kiefer reported a case of ethmoid and sinus disease, looked like a tubercular growth, removed it but it returned. The patient had a large thyroid and exophthalmos. Finally removed the goiter and then all the nose symptoms disappeared.

Dr. Fleming: This essay reads to me like an advance copy of what will become generally accepted facts. We surgeons are largely responsible for most of our lack of general information on the subject of the internal glandular secretions. Many cases of goiter involve the recurrent laryngeal nerves and in these cases the laryngologist should be consulted to determine whether or not paralysis of the vocal chords is present. An operation is sometimes of value to remove pressure on these nerves. I agree with the doctor as to his statement about the adenoid and the tonsils having an internal secretion.

Dr. Sweet: We give iodine in adenoid enlargement, tinnitus. What is the effect on the system of the iodine?

Dr. Harrower replied, iodine, arsenic and sulphur are the most active thyroid stimulants.

Dr. Mills: I have given thyroid in vitreous opacities without success. I had one case of iridocyclitis in which there was falling out of the hair and nodules in the iris, rendering accommodation difficult. Wassermann test was negative. I gave K. I. without much result. Patient put on thyroid feeding and the improvement was rapid and even spectacular, the nodules disappeared and the patient gained 30 to 40 pounds.

2nd case: Plastic iridocyclitis, apparently rheumatic in origin, loss of hair and dry skin, improvement under thyroid feeding.

Dr. Harrower: Hertoghe has explained the action of thyroid in metabolism by saying the waste of cells in inflammation has not been removed during the inflammation, and of course this holds true in the nose and throat. The giving of thyroid extract increases the cell glandular efficiency.

Thrombo-plastin is brain soup which is made by macerating the brains of calves in salt solution, straining and adding a percentage of trikresol to preserve it. This is used to check hemorrhage, and may be obtained from the Pacific Surgical Company. I made their supply myself. Constitution is controlled by the endocrims. We may use thrombo-plastin with all surgical operations, tonsillectomy even in cancer, varicose veins and in war service.

Extract of spleen has been used in some cases but not enough to tell its value yet. We should decry indiscriminate use of thyroid extract as it has a somewhat cumulative effect, but not so much as digitalis. We will have greater results in some persons from a 1/10 grain than in others with 10 grains.

C. G. STIVERS, M. D., Secretary.

Meeting of June 5, 1916.

Attendance: Drs. Bullard, Brown, Dudley, Dilworth, Detling, Graham, Ide, Montgomery, F. L. Rogers, Reade, Reynolds, Stivers, Sweet, Stephenson, Swetnam, Tholen, True, Mills.

Dr. Montgomery showed a case of total labyrinthine destruction, streptococcal in origin.

Dr. Zeiler made bacteriological examination. The case of a little girl, has made good recovery as is shown.

Dr. Stivers showed three cases.

1st case: one of total ethmoid excitation followed by immediate cessation of asthma, which had persisted for a year.

2nd case: Vincent's angina, patient shown. Young woman, sloughing ulcer on the right tonsil. Treated successfully with tincture of iodine locally, daily. Photograph of throat shown.

3rd case: Tuberculosis of the tongue, ulcer formerly $\frac{1}{2}'' \times \frac{1}{4}''$ on the tip of the tongue is reduced in three months' treatment to size of match head.

Dr. Zeiler read his article on "The Laboratory findings in affections of the eye, ear, nose and throat and their complications."

Discussion.

Dr. Bullard asked the question what percentage of cases of syphilitic keratitis recovered. Ans. The keratitis gets well but the blood test is never negative, in other words, never have a positive Wassermann with syphilitic keratitis.

Dr. Montgomery: How do you make a differential diagnosis between tubercular and septic meningitis? Ans. Tubercular and septic meningitis differ in diagnosis materially, especially in the spinal fluid. In addition to the clinical symptoms we find the spinal fluid showing clear in tuberculosis, and turbid in the septic form. In tubercular meningitis demonstrating the bacillus is not easy except by inoculating a guinea pig, and that takes six weeks. Special laboratory findings of tuberculosis vary from 20 to 30 per cent. in examinations of the entire spinal fluid to 97 per cent. in the examination of the residue of the fluid. To make a diagnosis of tubercular meningitis where no tubercular bacilli are found depends upon elimination methods, which is the strong globulin test with a mono-nuclear picture in the spinal fluid with the diminution of the glucose contents.

Dr. Dudley asked in reference to desensitizing the patient. Ans. It requires a certain amount of spirochetes to make enough of the lipotropic substances to make a Wassermann reaction. In giving salvarsan the use of the provoked test is common; we test for it every five or six days after a dose of salvarsan or neo-salvarsan, and then when we have a negative Wassermann the presumptive evidence is that the syphilis is cured.

Dr. Dudley reported a case of eye disease, ptosis. Patient objected to salvarsan so gave internal medication. Symptoms disappeared but second Wassermann +4 was secured. What is the explanation? Ans. Dr. Zeiler: This was probably a case of nerve syphilis and the diagnosis should have been made in the spinal fluid.

Dr. Mills: What should be the further treatment of the case mentioned by Dr. Dudley? Ans. Dr. Zeiler: Our laboratory does not advise treatment, but I am interested in the treatment of syphilis so will say we believe the intra-dural method is best. Spirocheticidal activity is best at 1 to 5000. The ratio of mercury to salvarsan is as 40 to 200 to 1, or .005 of maximum dose in spinal canal. .002 of mercury bichloride can be given. Theoretically the ratio is in favor of mercury. This is in nerve cases. The injection is given in the Trendelenburg position.

Dr. Detling: What effect has the spinal injection of mercury on optic atrophy? Ans. It probably arrests it.

Dr. Mills: Have you any cases of optic atrophy improved by intraspinal injection? Ans. Yes. Theoretically the subdural method should be the best in these cases, but practically trephining is a major operation and patients cannot receive so many injections as in the spinal method.

Dr. Reed asked the question: Do the nerve forms and systemic forms of syphilis ever exist in the same case? Ans. In 174 of our cases we never have found them together.

Dr. Ide: What is your idea of the value of sub-conjunctival injections of mercury in keratitis and

optic atrophy? Ans. It may be of the utmost value as it is introducing the medicine in the place where the greatest amount of activity of the spirochetes is being shown.

Dr. Swetnam: Does one form of spirochetes protect against the other? Ans. Yes, apparently.

Dr. Ide: What is the value of anti-gonococcal serum in gonorrheal ophthalmia and iritis? Ans. Dr. Hektoen's article in the last Journal of the American Medical Association expresses my views. It acts probably by stimulating the plastic exudate. I think vaccines are of some value in antrum infections, etc., but they are not of as much value as cures as they are as immunizing agents. You must have free drainage first in sinus infections. The vaccine undoubtedly produces a shock to the system and so liberating the antibodies they have been trained to make and throw them off into the circulation.

Dr. Detling reported a case of tobacco amblyopia with classical scotoma. This man smoked a cigarette every half hour and took a quart of whiskey a week. Vision is improving after cutting off the whiskey and tobacco.

C. G. STIVERS, M. D., Secretary.

BOOK REVIEWS

Those About Trench. By Edwin Herbert Lewis. New York: The Macmillan Company, 1916.

The plot of this book is interesting, but it is rather slow reading because of the lengthy way the different dialects and the philosophy of each character is treated. The story, while written around doctors, deals more with war and revolution than with medicine.

H. A.

Diagnostic Methods. A Guide for History Taking, etc. By Herbert Thomas Brooks, A. B., M. D., etc., 3rd edition, revised and re-written. St. Louis. C. V. Mosby & Company, 1916. Price \$1.00.

The preface of this little book disarms very obvious criticism of such a work by saying, "This book is intended for medical students, hospital internes and physicians, who have a limited amount of time, only, to give to laboratory work." It certainly meets no wider field and it is open to question whether there is need of this manual in addition to several excellent manuals already available. In the very restricted field to which the author limits it, criticism might be directed toward including "practical" instructions for performing the Wassermann reaction and complement fixation test for gonorrhea, as also toward the discussion of tuberculin diagnosis. An outline of history-taking and physical examination seems hardly necessary beyond medical school days, and if a routine model is to be suggested, the forms given in this book are certainly susceptible of improvement.

A. C. R.

Candy Medication. By Bernard Fantus, M. D., St. Louis. Mosby Company, 1915. Price \$1.00.

Practically all children object to anything in the form of medicine, no matter how palatable it may be, and recognizing this fact, the author of this small book tries to show the physician how he can give his medicine disguised as candy. The first part of the book is perhaps more useful to the pharmacist than the physician, as it gives directions for making the chocolate tablets containing the drugs. The second part of the book gives a number of formulae which will prove interesting to the practising physician, as they show that many drugs can be given in this masque and palatable form. There are already on the market a number of medicated candies, but the physician frequently desires to give his own particular mixture in his own proportions,

and the author's idea is that these can then be prepared extemporaneously. The main difficulty is that the ordinary pharmacist has some trouble in making the tablet with any of the hand machines now on the market, and of course it would be out of the question to prescribe two or three hundred tablets at one time. However, this seems to be a big step in the right direction, and it is hoped that many physicians will look over this book and that it will bear good fruit.

F. L.

Sexual Impotence. By Victor G. Vecki, M. D., Consulting Genito-Urinary Surgeon to the Mt. Zion Hospital, San Francisco. Fifth edition, enlarged. 12mo. of 405 pages. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$2.25 net.

Vecki's book on sexual impotence has proved its value to the profession during almost three decades and has become one of our standard works on that interesting, but generally neglected, subject. The book, as presented to us now in its fifth edition, contains the whole literature up to date and, thus, comprises everything of scientific note connected with the physiology, pathology and treatment of impotence. The book is pervaded by a tone of hopefulness and optimism, and the author has succeeded in instilling into his literary offspring his own genial and buoyant personality. The style is graceful and clear, and the perusal of the book, aside from being profitable and instructive, is delightful and attractive. The pages, containing the author's personal views and experiences on excess in venery, masturbation, spermatorrhoea, etc., should be read by every physician, who wishes to instruct himself upon these intricate subjects. The author's views are always sane, sensible and moderate, and they are, above all, fearlessly true. The book will be found a most valuable addition to the practitioner's working library.

M. K.

A Text-Book of Fractures and Dislocations, With Special Reference to Their Pathology, Diagnosis and Treatment. By Kellogg Speed, S. B., M. D., F. A. C. S., Associate in Surgery, Northwestern University Medical School; Associate Surgeon, Mercy Hospital; Attending Surgeon, Cook County and Provident Hospitals, Chicago, Octavo, 888 pages, with 656 engravings. Cloth, \$6.00 net. Lea & Febiger, Philadelphia and New York, 1916.

The list of text books on Fractures and Dislocations is already fairly complete. A few new things are reported. The statistical study is based on a series of cases that has not appeared in the other texts. Over 11,000 cases seen in Cook County Hospital are here reported. In addition to his own observation, the author has made frequent reference to the literature on the subject.

The author deserves considerable credit for the skillful way in which he presents the contradictory ideas which prevail at the present time concerning the regeneration of bone. He begins the subject with the following sentence "How bone grows is an undecided point in pathology." An attempt is made to harmonize the various theories and experimental data with the clinical findings.

The pathology of fractures has been emphasized as a basis for interpreting the fracture. This includes some of the more recent ideas concerning mechanism of fractures.

The treatment is given for fracture in general, as well as the detailed treatment of each particular kind of lesion. Each year adds to the list of open operations, so the author is able to make valuable comparisons between the open and closed methods.

The book is written in a pleasing style. The illustrations are good and they are well chosen. It is a very desirable book for the use of students.

J. P. P.

Alcohol, Hygiene and Legislation. Edward Huntington Williams, M. D., N. Y. The Goodhue Co., 1915.

Dr. Williams makes a sharp distinction between the use and the abuse of alcohol; between the "normal" moderate drinker and the "abnormal" inebriate. He believes that the present methods of prohibitive legislation have failed and that there should be substituted such legislation as would cut down promptly on the use of distilled liquors of high alcoholic content, and encourage the use of the lighter beers and wines. He hopes, through education, the whole problem of alcohol may be settled by evolution rather than revolution. He claims a direct relation between prohibitive legislation, and increase in the consumption of alcohol, increase in the use of narcotic drugs, insanity, amount of mortgaged property, etc. He thinks the use of alcohol has been blamed for too much pathology. He finds that Kansas has 1.3 more insane persons per 100,000 than the rest of the states, but in arriving at this conclusion, he excludes six states because of "thick population" and Oregon and Washington because they form a "unique group." He would work more toward keeping the drinker away from drink, than drink from the drinker; and yet malaria might be beyond control if one simply aimed at keeping persons from the source of infection instead of eradicating mosquito-breeding swamps. The book shows that prohibitive legislation is not at present prohibiting but does not prove the case against such legislation, properly executed. The following is from an editorial in Collier's for June 17, 1916: "— in the city of Wichita, Kansas, the saloons were running years after the prohibition laws were supposed to have gone into effect, but when a dry mayor was elected and the laws rigidly enforced, the bank clearings increased from \$1,200,000 a week to \$3,000,000 a week, in three years; merchants' collections improved; and, whereas 40% of the insured workmen had been in arrears, they now paid up, and some in advance. —" While it may be a happen-so that improved conditions and enforced prohibition came together, yet these facts offer some evidence against assertions that business depression must necessarily follow in the wake of successful prohibitive legislation.

Dr. Williams's book is interesting to all who consider the problem of alcohol. J. H. C.

The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume V, Number III (June 1916). Octavo of 176 pages, 42 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Price per year, Paper, \$8.00; Cloth, \$12.00

Contents.

Talk by Dr. R. C. Coffey on certain abdominal operations.

Multiple sarcoma of skin.

Infective costal perichondritis—resection of costal cartilages.

Diverticulum of esophagus—conservative treatment.

Acute calculous cholecystitis—acute pancreatitis—cholecystostomy.

Acute cholecystitis with diffuse pancreatitis—cholecystostomy.

Chronic cholecystitis—pancreatic lymphangitis—metastatic arthritis—cholecystectomy.

Cholelithiasis, pancreatitis, appendicitis—cholecystostomy, appendectomy.

Carcinoma of cholelithic gall-bladder—exploratory celiotomy.

Pyloric obstruction from cicatricial band—release; obliterative appendicitis.

Ulcer of duodenum and of jejunum—anterior gastrojejunostomy by oblong button method.

Obturator ileus—release by dissection of band—talk on intestinal obstruction.

Postoperative ventral hernia. Stone in cystic duct—cholecystostomy.

Carcinomatosis of peritoneum—exploratory operation.

Tuberculous peritonitis, enteritis, lymphadenitis—exploratory celiotomy.

Fecal fistula—closure by enterorrhaphy.

Polyposis of sigmoid—enterotomy—ablation.

Perirectal sinus—excision.

Carcinoma of rectum.

Uterine fibroids—supravaginal hysterectomy, curetage.

Extra-uterine pregnancy—salpingectomy.

Pyosalpingitis, bilateral—celiotomy; drainage.

Neoplasms of both kidneys; gastric ulcer—exploratory celiotomy. Sarcoma of right kidney—exploratory celiotomy.

Vesical calculus—suprapubic lithotomy.

A Handbook of Infant Feeding. By Lawrence T. Royster, M. D., illustrated, St. Louis. C. V. Mosby, 1916. Price \$1.25.

In the first half of this compendium of infant feeding Royster presents in a very refreshing manner his personal views on the subject. In general he has outlined important features of recognized methods. He also explains in words of one syllable phenomena which usually are shrouded in obscurity—such, for example, as digestive "adaptation" to certain food elements.

When, in the latter half of the treatise, he endorses for general use the caloric and percentage methods of feeding and endeavors to prove that they are simple and easy, he is naturally less successful. That the methods are not simple Royster makes quite plain by his very effort to demonstrate their simplicity, approximately twenty pages of the otherwise lucid monograph being devoted to algebraic formulas for modifying milk.

In my opinion these methods are not deserving of the position they occupy in the minds of practitioners. I have before pointed out, in this connection, that it is not the percentages nor calories ingested that nourish a baby—but the amounts digested and assimilated.

As a whole, the compendium can be read with benefit by pediatricists as well as general practitioners. S. B.

The Biology and Treatment of Venereal Diseases and the Biology of Inflammation and its Relationship to Malignant Disease. By J. E. R. McDonagh, F. R. C. S. Philadelphia and New York: Lea & Febiger. 1916.

One regarding the innocent title of this work and limiting himself to the mere expectation of a clinical treatise with the scientific aspects of venereal diseases duly amplified in the text will be surprised to discover its real depth and scope. To be sure the anticipated ground is well and clearly covered. But a large portion of the book is devoted to histological, that is, mainly cytological, studies in their most fundamental relations. In addition the author has conducted an extensive and searching investigation in the field of micro-chemistry and from observations on tinctorial reactions has evolved views upon the nature and mechanism of most subtle chemico-physical processes of living tissue. By means of numerous, painstaking and seemingly accurate observations there is an attempt to discover the basic facts, and deductions are carefully drawn from these. However the reasoning is often more plausible than convincing and is sometimes contradictory. To fully appreciate the book one needs a knowledge of the discoveries of Unna and Pappenheim, Abderhalden and Emil Fisher in ad-

dition to the physical chemistry of colloids. While this applies to the scientific side the clinical side as given does not presuppose such knowledge.

The opening chapters deal with a description of the syphilitic organism, called by the author *Leucocytozoon Syphilidis*. Evidence is presented showing that the organism passes through a sexual and asexual cycle. The *Spirochaeta Pallida* is merely the male gamete form. Certain chemical bodies are determined in the organism by special staining reactions and later these are considered in connection with the chemical nature of the immunity reaction in syphilis and particularly the Wassermann reaction. The clinical course of syphilis is then considered and a description of the technic and significance of the various tests is given in a rather informal manner of presentation. The author's views on the exact chemical action of Salvarsan as based upon his own investigations (Chapter XXVII, "Chemotherapy and its Mode of Action in Syphilis") are well worth reading. His experience at the London Lock Hospital places him as an authority on the treatment of syphilis and the chapters devoted to this subject are replete with practical information, giving evidence of well-balanced, critical judgment. The treatment of syphilis of the central nervous system receives special attention.

Syphilis covers about the first two-thirds of the book. Several chapters are given to gonorrhoea and its complications. A full description of certain of the rarer complications, such as keratoderma, as well as of the laboratory technic of complement fixation together with a discussion of vaccine treatment form distinctive features. Other venereal diseases are considered, and attention is particularly called to the splendid description of granuloma inguinale, a tropical disease. Chapters XLII, XLIII, and XLIV are devoted to sexual neurasthenia and the social aspects of venereal disease.

Part II, covering the last 90 pages, is novel. The author has made studies of fundamental types of cells, the epithelial cell, lymphocyte, the endothelial cell, etc., tracing their origin and growth and the stimuli affecting growth, their chemical constitution and their responses to noxious agents. It is impossible to abstract in brief all the information given. There is particularly in this connection a lengthy discussion of leucemia and leucemic states with original views. There is also a free discussion of malignant growths of the skin, with an elaborate classification of the epitheliomata.

M. S.

The Art of Anesthesia. By Paluel J. Flagg, M. D. 136 illustrations. 341 pp., Philadelphia and London: J. B. Lippincott Company. Price \$3.50. 1916.

The author of this manual states in his preface that "the proper administration of an anesthetic is more than a mere mechanical performance, it is an art." That this is so in the author's opinion is amply demonstrated by the appearance of this volume, wherein the whole subject of anesthesia is comprehensively and adequately dealt with.

As is fitting, a short history of anesthesia is given and reproductions of documents which relate to the first use of ether.

A very complete table giving the classification of anesthesia is inserted. Excellent advice is given the young internist on the "control of maintainance," a term used by the author and which is self-explanatory.

The chapter on "Ether" is very fully covered and well written and is by far the best in the book. A warning on the use of ethyl chloride is sounded and its use deprecated on account of the great danger attending its use. However, in experienced hands it has proven for minor operations of short duration, an excellent and safe anesthetic. In one of the large London clinics

it is the anesthetic of choice for children for tonsillectomies and other throat work, and has been used thousands of times without a single fatality. Chloroform, with the latest pathological researches concerning its effects on the organism, is treated of at some length and the picture presented therein is truly a terrifying, and I think an unjust one. Without doubt chloroform is a much more toxic agent than ether, but it has many advantages in its favor which will never allow it to become entirely superseded. No mention is made of that interesting condition known as "status lymphaticus" or of "thymic death" and it is to these states that the deaths of many children are due, following the administration of chloroform. Laymen, and even medical men for that matter formerly thought that any old "practical nurse" "could give the chloroform."

The results are only too well known and have contributed greatly to the disrepute into which this invaluable agent has fallen. But in the hands of a highly trained specialist the danger is reduced to a minimum and makes chloroform a safe agent for inducing narcosis.

This brings up the much mooted question of the education of the medical student in the administration of anesthetics, a subject sadly lacking in the medical curriculum. Many times alas! it is only when the interne has his first fatality that he realizes that the giving of an anesthetic is a serious matter, and absolutely on a par with the operation itself, contributing to or taking away from its success.

This is an opportune moment to urge upon students and practitioners the importance of studying this important subject.

The chapter on local and spinal anesthesia treats of the subject very fully. Technique is admirably handled but more might have been written about the treatment of sudden emergencies and the various methods of resuscitation, especially the use of the lung motor. Only a line or two is devoted to massage of the heart, and none on the use of the electric current in case of impending disaster.

On many occasions the timely use of the above agents has saved life, and the anesthetist should have knowledge of every possible emergency that is liable to crop up during the administration of an anesthetic, and having the knowledge be able to apply it.

Generally speaking, it is a good book on the subject, written by a practical man who speaks with authority and expert knowledge of his topic. The printing is clear and the book is well illustrated throughout. It can be cordially recommended as an excellent treatise in small compass on the science and art of anesthesia and should prove of great value to students and practitioners alike. A careful perusal of its contents will amply repay the time spent and much valuable information gleaned from between its covers. C. H. C.

REPORT OF THE MEETING OF THE STATE BOARD OF HEALTH, JULY 1, 1916.

The regular meeting of the State Board of Health was called to order at 8:30 a. m., Saturday, July 1, 1916, President George E. Ebricht in the chair. There were present President George E. Ebricht, Vice-President F. F. Gundrum, Dr. Edward F. Glaser, Dr. Adelaide Brown and Secretary Wilbur A. Sawyer.

Dr. H. E. Peters, in accordance with the request of the board of trustees of the city of Pittsburg and of the health officer for Contra Costa County, was appointed inspector of the State Board of Health, without salary from the State, for the purpose of enforcing the stream

pollution laws above and near the intake of the Pittsburg city water supply.

J. A. Thorpe of Sacramento was appointed an inspector of the State Board of Health, without salary from the State, for the purpose of enforcing the stream pollution laws above the intake of the Sacramento city water supply.

The secretary was authorized to take such steps as may be necessary to bring about the abatement of the nuisance created by the Los Angeles sewage outfall at Hyperion.

In accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, the following permits for sewage disposal were granted: To the city of St. Helena for the discharge of sewage into Napa Creek; to the city of St. Helena for disposal of its sewage by land treatment on its own farm or in the vicinity of the farm; to Mrs. Phoebe Hearst for the disposal of sewage from her home at Hacienda, in accordance with methods shown in the application and accompanying maps; to the city of Paso Robles for the disposal of its sewage into the dry bed of the Salinas River during the remainder of the summer, provided that the city take special precautions to so handle the sewage disposal as to prevent unnecessary nuisance, the permit to be revoked if the city fails in this regard; to the town of Winters for the disposal of its sewage into Putah Creek for a period of two months from date, during which time works shall be installed for the disposal of the city sewage elsewhere than into Putah Creek.

The Board granted the following permits for water supplies: To the California-Oregon Power Company to continue to furnish water from sources examined and listed in the report of the Bureau of Sanitary Engineering, dated May 4, 1915, to the inhabitants of Dunsmuir and vicinity; to the Benicia Water Company to continue to furnish water for domestic purposes to the city of Benicia; to the Kennett Water Company to furnish water to the city of Kennett, pending the installation of equipment for chlorinating the supply.

A card adopted for recording the medical examination of orphan wards of the State, as submitted by the State Board of Control, was approved.

In accordance with the recommendation of the Director of the Bureau of Tuberculosis, the men's building, wards three and four, containing forty-six beds, of the tuberculosis department of the San Francisco city and county hospital was accredited as eligible for the State tuberculosis subsidy.

In accordance with the recommendation of the Director of the Bureau of Tuberculosis, the tuberculosis ward of the Sacramento county hospital was also accredited as eligible for the State tuberculosis subsidy.

Dr. George E. Ebright, president of the Board, presented a report of his investigation into the method of commitment and treatment of the insane in California. The secretary was instructed to communicate with county physicians, superintendents of county hospitals, charity organizations, the State Lunacy Commission, superintendents of insane hospitals, and others for information relative to this subject.

A certificate as registered nurse was granted to a single applicant who had complied with the requirements of the law.

The action of the secretary in appointing Miss Elizabeth Pack of San Francisco to the position of Assistant to the Director of the Bureau of Registration of Nurses, was approved.

A large number of cases of alleged violations of the food and drugs act then came up for hearings. Twenty of these cases were referred to local district attorneys for prosecution.

F. F. GUNDRUM,
Secretary pro. tem.

DO YOU KNOW THAT

It's worry, not work, which shortens life?

A cold bath every morning is the best complexion remedy?

Poor health is expensive?

The U. S. Public Health Service has reduced malaria 60% in some localities?

The death rate from typhoid fever in the United States has been cut in half since 1900?

Pneumonia kills over 120,000 Americans each year?

Flyless town has few funerals?

The well that drains the cesspool is the cup of death?

ACUTE ANTERIOR POLIOMYELITIS. (INFANTILE PARALYSIS)

[This article is reprinted at this time—with corrections and additions—because of the extensive outbreak of infantile paralysis in New York. The article appears in "The Prevention and Treatment of Infections," published by the American Medical Association, in 1915.]

Acute anterior poliomyelitis is an inflammation of the anterior gray matter of the spinal cord, that portion supplied by the central arteries, the branches of the anterior median artery of the anterior longitudinal fissure. However, it may also affect both the white and gray matter of the brain, the intervertebral ganglia and the abdominal ganglia. Flexner believes that the route of infection is practically always by the nasal mucous membrane to the lymphatic channels of the olfactory lobes, the spinal fluid and then to the nerve tissues.

It was not definitely shown, until 1909, that this disease belonged to the infections and was contagious, although it had been long suspected. More or less isolated instances and some slight group attacks had occurred in America for many years, but we have had epidemics only since 1907, caused probably by importations of the germ from Europe, where it has been long endemic. In 1909, Landsteiner and Popper reported that they had caused infantile paralysis in monkeys by inoculating them with a spinal cord emulsion obtained from a child who died from this disease. Noguchi and Flexner later reported that they had been able to cultivate a causative organism of this disease.

Recently, Flexner and his co-workers¹ have shown that the contagium is contained in the secretions of the nose, and that undoubtedly there are carriers of this disease. It seems to be demonstrated that the infection or poison reaches the nervous system through the lymph, but probably reaches its point of activity, namely, the spinal cord, by means of the cerebrospinal fluid. In previous experiments Flexner and Amoss² have shown that in all probability infection does not reach the individual from the bites of insects, as they were unable to infect monkeys by directly introducing the virus into the blood. This does not preclude the possibility of domestic animals like cats and dogs carrying the contagium and causing infection by way of the nostrils and lymph channels. It has not been shown that flies transmit the contagium, nor that the association with stables has increased the liability of infection, as has been suggested. It does not seem frequent that more than one person in the same household is affected, although such cases occur. However, in epidemics the majority of patients are likely to come from the same general region.

Fraser³ of New York reports his observations on ninety cases of epidemic poliomyelitis. He found that the age varied from 9 months to 14 years. The majority of cases, especially when it is spo-

radic, has always occurred in young children under five years of age. The death rate is generally low, varying from 4 to 16 per cent., but the paralyses resulting are constant and frequent.

Flexner and Lewis' splendid work on this subject is reported in various numbers of *The Journal*.⁴ They state that the infecting agent in this disease belongs to the class of minute filterable viruses which cannot be demonstrated with certainty by means of the microscope. They also showed that spinal fluid withdrawn on the third day of the infection, before the appearance of paralysis, contains the virus which will cause infections of monkeys. Flexner, Noguchi and Amoss⁵ have recently again shown that the minute micro-organism isolated from poliomyelitic tissue is probably an etiologic factor, if not the cause, of epidemic poliomyelitis. Flexner and Lewis⁶ also showed that the disease can be transmitted from monkey to monkey. They further showed that the germ or virus resists freezing, and therefore the disease is not stopped by cold weather. They also believe that one attack confers immunity.

Lucas⁷ found that monkeys after inoculation showed a lymphocytosis during the acute stages, but a marked and constant leukopenia. The blood at this time also showed an eosinophilia. This disturbance in the white blood count disappeared when the acute stage was over.

Prevention.

It is quite probable that the so-called "distemper" which at times attacks dogs and may attack horses, is really caused by this same infection. Hence, a dog affected with distemper should be isolated, and no child should be allowed to associate with it. While it has not been shown that flies will carry this disease, in all probability they may transmit the infection by their feet. Consequently, flies should be excluded by proper screens, if possible, from any animal that suffers from distemper, and certainly should be prevented from reaching an individual sick with poliomyelitis.

As early as Feb. 12, 1910, Flexner and Lewis⁸ showed that this disease was contagious by means of the secretions of the mucous membrane of the nose especially, and also of the throat, and therefore that every patient should be isolated, and that the disease should be made reportable to the boards of health.

The nurse and the family should understand that the same care must be exercised in destroying the contagium and preventing the contamination of articles and substances by the secretions of the nose and throat of a poliomyelitis patient as is so well understood must be taken in diphtheria.

As soon as a case is reported to the board of health the school board should be informed (as such cases are frequently in children too young to go to school) that they may send home from school the other children of the family, and if there is an epidemic, perhaps the other children of that tenement. The incubation period is said to vary, and may be as long as ten days, but to be safe from causing infection in others, such children should remain out of school for two weeks.

Early Symptoms.

During an epidemic symptoms of acute infection with fever, excessive irritability and hyperesthesia should be suspected of infection with this disease.

Although a patient who is old enough may complain of headache and pains, especially in the epidemic form of the disease, still, in this as well as in the sporadic form, the onset may be so rapid that a child well the night before may be found with high fever and even with paralysis in the morning. Pain is referred generally to the muscles of the back and legs, and later to the muscles of the arms. The temperature in serious cases may be high, but the ordinary range of rectal temperature was found by Fraser to be from 101 to 103. The

pulse rate is high, and is generally over 120. While pain may keep the little patient awake, and there may be a great amount of irritability and restlessness, drowsiness and heaviness was noted by Fraser in half of his cases, although there were often twitchings and jerkings during sleep. In two-thirds of his cases he found stiffness of the neck and back, which is so characteristic of cerebro-spinal meningitis. The greatest tenderness is found generally in the extremities. Although this might last but one or two days, it sometimes persists for three or four weeks. The tendon reflexes are found generally absent.

The spinal fluid is clear, with a moderate increase of cells and of globulin. In the first week, the cells are more increased and the globulin scant or absent. Many of the cells may be polymorphonuclears. In the second and third weeks both the total number of cells and the proportion of polymorphonuclears are decreased and the other types of cells increased. In some cases, however, the fluid may appear normal.

Although, as just stated, paralysis may occur almost coincident with the illness in sporadic cases, in epidemic cases paralysis seems to develop most frequently on the third or fourth day. The acute illness lasts from one week to ten days. A large number of Fraser's cases showed some slight facial paralysis. If the respiratory muscles were affected, the prognosis was dire. There may be paralytic interference with urination, and defecation may be difficult from inability of the abdominal muscles to act.

It should be remembered that many abortive forms of this disease probably occur without any paralysis, and many times without a diagnosis, and such cases may doubtless spread infection. Koplik,⁹ in reviewing an epidemic of 1200 cases, states that many atypical forms occur.

As to the extremities, one or both arms may be paralyzed, or one arm and one leg, or both legs, or there may be crossed arm and leg paralysis. The arm paralysis is not often complete, and the recovery is more rapid. Complete loss of response to faradism means a bad prognosis as to recovery, and atrophy will rapidly occur. If response to faradism is not completely lost, the outlook, with proper care and treatment, is good. The rapidity of recovery from paralysis, and the number that completely recover vary with the different epidemics; but the number that completely recover is lamentably small. More scientific treatment by nerve and orthopedic experts will doubtless make this percentage of complete recoveries much greater.

References.

- 1 Flexner, Simon, and Amoss, Harold L.: Localization of the Virus and Pathogenesis of Epidemic Poliomyelitis. *Jour. Exper. Med.*, Sept. 1, 1914, p. 249; abstr., *The Journal A. M. A.*, Sept. 26, 1914, p. 1136.
- 2 Flexner, S., and Amoss, H. L.: Penetration of Virus of Poliomyelitis from Blood into Cerebrospinal Fluid. *Jour. Exper. Med.*, April, 1914, p. 411; abstr., *The Journal A. M. A.*, April 25, 1914, p. 1360.
- 3 Fraser: *Am. Jour. Med. Sc.*, July, 1914, p. 1.
- 4 Flexner, Simon, and Lewis, Paul A.: The Transmission of Acute Poliomyelitis to Monkeys. *The Journal A. M. A.*, Nov. 13, 1909, p. 1639; The Nature of the Virus of Epidemic Poliomyelitis, *ibid.*, Dec. 18, 1909, p. 2095; Experimental Epidemic Poliomyelitis in Monkeys, *ibid.*, April 2, 1910, p. 1140; Experimental Poliomyelitis in Monkeys, *ibid.*, May 28, 1910, p. 1780.
- 5 Flexner, Simon; Noguchi, Hideyo, and Amoss, Harold L.: Concerning Survival and Virulence of the Microorganism Cultivated from Poliomyelitis Tissues. *Jour. Exper. Med.*, January, 1915, p. 91.
- 6 Flexner, Simon, and Lewis, Paul A.: Epidemic Poliomyelitis in Monkeys. The Activity of the Virus. *The Journal A. M. A.*, Jan. 1, 1910, p. 45.
- 7 Lucas: *Tr. Mass. Med. Soc.*, June, 1910; the subject is also discussed by Gay, Frederick P., and Lucas, William P.: Anterior Poliomyelitis. Methods of Diagnosis from Spinal Fluid and Blood from Monkeys and in Human Beings. *Arch. Int. Med.*, Sept., 1910, p. 330.
- 8 Flexner, Simon, and Lewis, Paul A.: Epidemic Poliomyelitis in Monkeys. A Mode of Spontaneous Infection. *The Journal A. M. A.*, Feb. 12, 1910, p. 535.
- 9 Koplik, H.: An Epidemic of Acute Poliomyelitis. *Arch. Pediat.*, May, 1909, p. 321.

SOCIAL INSURANCE COUNTY COMMITTEES.

June 8, 1916.

Alameda County—Dr. H. S. Delamere, chairman;
Dr. F. H. Bowles, Dr. H. A. Makinson.

Butte County—Dr. Edw. E. Baumeister, Dr. N.
T. Enloe, Dr. J. O. Chiapella.

Mendocino County—Dr. L. C. Gregory, Dr. Os-
wald H. Beckman, Dr. H. O. Cleland, Dr. S. L.
Rea, Dr. E. H. Sawyer.

Modesto County—Dr. B. F. Surryhne, Dr. F. R.
Delappe, Dr. E. V. Falk.

San Bernardino County—Dr. G. G. Mosley, Dr.
Carroll C. Davis, Dr. C. G. Hilliard.

San Diego County—Dr. Homer C. Oatman, Dr.
R. J. Pickard, Dr. Harry Wegeforth, Dr. P. M.
Carrington, Dr. R. L. Doig.

Orange County—Dr. H. M. Robertson, Dr.
J. I. Clark, Dr. A. M. Weedie.

Santa Cruz County—Dr. J. M. Gates, Dr. Keck,
Dr. E. E. Porter.

Ventura County—Dr. D. W. Mott, Dr. C. A.
Jensen, Dr. B. E. Merrill, Dr. H. B. Osborn.

These are all the counties reported to date,
July 18th, 1916.

STATE JOURNALS AND ADVERTISING.

Gentlemen:

We are enclosing a signature from the recent
issue of the American Medical Directory. As this
contains a complete printed list of medical jour-
nals in the United States and Canada, we believe
you will be interested in the data, and will
want to preserve it in your files.

When the editors of the Directory asked the
publishers of medical journals to supply this in-
formation, they stated:

"First—If your journal conforms to the stan-
dards of the Council on Pharmacy and Chemistry,
the title of your publication will be printed in
black face type in the Directory.

"Second—If you will furnish a sworn statement
of circulation, it will also appear in black face
type."

The tabulated results are very interesting:

1. There are 257 Medical Journals and Bulletins.
2. Of these, 133 conform to the standards.
3. There are 196 that accept advertisements;
61 do not.
4. Only 55 of the 257 give sworn statements of
circulation.
5. Only 41 that accept advertisements give
sworn statements of circulation.
6. Only 38 of the 257 that accept advertisements
conform to the standards and furnish sworn
circulations.
7. Of these 38 Journals, 28 of them are the
official State Medical Journals, and appear on
our enclosed "Blue List."
8. The Nebraska State Medical Journal, also on
our "Blue List," began publication with the
July, 1916, issue, hence does not appear in
the American Medical Directory. It has a
sworn circulation of 1200.
9. Is it not remarkable that our list of 28 State
Medical Journals comprise 74% of all medical
publications that maintain the standards and
give sworn circulation statements? Espe-
cially so, when you note there are 196 medi-
cal journals that solicit and print advertise-
ments.

Do not these facts justify advertising agents
and their clients in using this "Blue List" when
placing accounts in medical publications?

COOPERATIVE MEDICAL
ADVERTISING BUREAU,
Advertising Manager.

Editor of the California State Journal of Medi-
cine: I was pleased at the contents of R. B.'s
editorial in the June issue of the Journal, and
especially so because it shows that there is one
of our profession who realizes the importance
of the mineral waters of our country. Sad to
tell there are only too few of these. The pro-
fession does not scoff at the efficacy of any of the
celebrated European waters, but mention a do-
mestic mineral water and it shrugs its shoulders
and smiles in derision; the physician is only
aroused to a mild approval when one of his en-
thusiastic patients—a layman who has experienced
the benefits—forces him to it.

R. B.'s criticism is true: our springs "not only
lack many of the essentials necessary for success-
ful handling of the patients, but no attempt is made
to run them on a scientific basis." No, they are
not scientifically managed nor are they on a
scientific basis; and why? May we not put some
of the blame on the indifference of our scientific
men,—not only on their indifference but on their
ignorance of the efficacy of mineral waters? For
without the support of the profession the "private
interests" are handicapped. The springs are left
entirely in the hands of the layman, patronized and
boosted by the layman. Until the interest and
support of the profession can be aroused then
only can we force our springs to a scientific
and proper basis.

To-day what does the medical man demand of
the springs? Nothing—and he gets almost what
he demands (yet the layman finds something).
But the saddest part of it is he leaves undeveloped
a vast resource of his state and his profession.
Until the physician recognizes the various types of
waters and their indications, all kinds of cases
will go to all kinds of springs. Results have
come from good luck on the part of the patients
rather than from good management on the part
of the physicians; thus have arisen the "extrava-
gant claims and literature" which the medical
profession resents and for which it is in part
responsible.

Let us hope that R. B.'s appeal for better in-
terest on the part of the profession be heeded.

Yours sincerely,

R. H. HUNT.

Bartlett Springs, Cal.

Headquarters Western Department,
Department Surgeon's Office,

San Francisco, Cal., June 9, 1916.

California State Journal of Medicine,
Butler Building,
San Francisco, Cal.

Dear Sir:

The bill which has just passed Congress makes
a substantial increase in the Medical Corps of the
Army. It is desired to call the attention of
acceptable young graduates with hospital experi-
ence to the Army Medical Corps as a career.

Candidates who pass the preliminary examina-
tion are given a course of instruction of about
six months at the Army Medical School, Wash-
ington, D. C., after which they are commissioned
by the President. Qualified candidates ordered to
the school receive the pay and allowances of a
first lieutenant for the journey from their homes
to Washington and while on duty at the school.

The initial pay is \$2000 per annum, with allow-
ances for heat, light, quarters, and forage for two

horses, after three years, if promoted to the grade of captain, \$2400. Further promotions occur in the course of service. Young men entering at this time will probably attain the rank of Colonel within thirty years, with a monthly pay of \$416.66; and retirement at the age of 64 with an allowance of \$300 per month for life.

The next examinations will be held July 17, 1916, and August 14, 1916. No application blank is issued for this examination, but permission to appear may be obtained by addressing a letter to the Adjutant General of the Army, Washington, D. C., which must be in the handwriting of the applicant. This letter should request appointment in the Medical Corps of the Army and give the date and place of applicant's birth, and the place and State of which he is a permanent resident. Testimonials based on personal acquaintance from at least two reputable persons as to his citizenship, character and habits, should be inclosed.

You will confer a favor on the writer by bringing to the attention of the younger members of the profession, who will be under thirty years of age October first, and who have had hospital experience, the desirability of the Medical Corps of the Army as a career.

Only desirable men are needed.

Very respectfully,

H. S. T. HARRIS,

Lieutenant Colonel, Medical Corps, U. S. A., Department Surgeon.

TUBERCULOSIS MEETING.

A conference between the National Association for the Study and Prevention of Tuberculosis and an officer of the New Mexico State Society was held in New York City this spring, and it was decided at that time that it would be advisable to hold a Southwestern conference on tuberculosis at Albuquerque during the fall. This conference will embrace the states of Colorado, California, Utah, Nevada, Texas, Arizona and New Mexico. It was also decided to hold this separately and distinctly from the already existing Southwestern Tuberculosis Society which was organized a few years ago at St. Louis, and will be held October 12th and 13th, convening on the morning of the 12th.

The program will be divided into three sociological sections and one medical section. Two of the sociological sections will deal with the general problem of Federal control of tuberculosis, with particular reference to the indigent migratory consumptive, and one section will discuss the primary efforts at Federal control, taking up such measures as the Kent Bill, Division of Tuberculosis, etc. Another session will deal more primarily with the educational methods of controlling the indigent migratory consumptive problem, discussing plans and educating the press through the signing of passing-on agreements, etc.

Dr. Farrant, president of the University of Colorado, and late executive secretary of the National Association, will make the principal address in the first of these sessions, and the principal address in the second session will be presented by some one from the executive office of the National Association. There will be only one paper with a general discussion following. The three sociological sessions will deal with community control, taking up a series of ten-minute discussions on various problems dealing with community control, such as sanitation, hospitals, dispensaries, open-air schools, legislation, etc. The speakers will be announced later.

A medical session primarily for physicians will be devoted to the general subject of early diagnosis. It is hoped we will be able to present men of national importance to deliver papers on

this subject. We expect to take up the various methods of early diagnosis, including the subject from the clinical standpoint and from the X-Ray standpoint. We feel sure that we will be able to offer to the people papers by expert Roentgenologists, as well as by expert clinicians. The sessions of the conference will be held in conjunction with the meeting of the New Mexico Medical Society and the State Tuberculosis Society, and will be held either in the Commercial Club or in the High School Auditorium, this to be determined later.

There is no question in the mind of the local state organization that this is one of the biggest opportunities the Southwestern States have had in getting together and discussing the various phases of the tuberculosis problem which affects this group of states. It will give an opportunity for the men interested in tuberculosis work, both from the sociological and clinical standpoints, to meet one another and to become better acquainted, and should also offer an excellent opportunity to determine what is best in the way of tuberculosis legislation for this Southwest country. If the conference proves to be a success it can be held yearly, the choice of the next meeting place to be decided upon by the body of men at this meeting.

It is urged that every physician, whether a specialist in tuberculosis or not, should attend and bring as many laymen with him as are interested in the sociological side. We are desirous of getting members of Women's Clubs, Civic Betterment Leagues, Public Health Departments of any type, to take an active part in this meeting, and to this end a general invitation is extended to all such organizations to send representatives here in October. If they will communicate with the secretary of the Society (Dr. L. S. Peters, Albuquerque, N. M.), he will be glad to make reservations at local hotels, or give them any other information they may desire relative to the conference.

Later on letters and circulars giving in detail further developments in the conference will be mailed to physicians and others. A large attendance is especially desired in order to stimulate interest in this work.

DEATHS.

Corbett, Elizabeth Jane, New York.
Page, John Evelyn, Santa Barbara.
Henry, Joseph W. San Jose.
Sponogle, F. M., San Francisco.
Chamberlin, Mrs. Mary Ann, Santa Cruz.
Jenkins, Luther Walker (died in Alaska).

NEW MEMBERS.

Mosher, Walter Frederick, Holtville.
Wimp, Wm. H., Holtville.
McGuffin, Robert Kenton, Imperial.
Thompson, Roy Oliver, Imperial.
Apple, Wm. W., El Centro.
Caster, Frank H., El Centro.
Burger, Floyd Amsler, El Centro.
Elliott, Addison Eugene, El Centro.
Lockett, T. O., El Centro.
House, Lewis Clinton, El Centro.
Brooks, Charles Stanford, El Centro.
Harley, Elmer, Seeley.
Snow, Wm. F., Palo Alto.
Woelffel, George A., Willits.
Jennings, Stuart S. M., Thermal.
Carter, Ross S., San Diego.
Fitzgibbon, Clarence Cyril, Conell.
McManus, F. P., Pinole.
Bryan, Geo. Corbin, Fullerton.

California State Journal of Medicine.

Owned and Published Monthly by the
Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Harry E. Alderson, M. D. René Bine, M. D.
Wm. P. Lucas, M. D. Sol. Hyman, M. D.

Advertising Committee:

R. E. Berling, M. D., Chairman
Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - -	Butler Building,
State Journal, - - -	San Francisco.
Official Register, - - -	

Telephone Douglas 62

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV SEPTEMBER, 1916 No. 9

EDITORIAL NOTES

MALPRACTICE INDEMNITY FUND.

If a good many members who have expressed approval of the plan presented in the July JOURNAL—whereby an indemnity fund is to be created, out of which fund any possible judgments or settlements in actions brought against contributors to the fund can be settled—do not act, the whole plan will fall. If you have not sent in your check for \$15 and your note for a like amount payable one year after date, do so at once. Find your copy of the July JOURNAL and read the details of the plan as therein presented. It is one of the best business propositions ever put before the members of the medical profession. Up to the time of writing, less than fifty subscriptions have been received, and more than fifty members have been heard to say that they intended to come in, that the idea was a fine one, etc. Approval without action may allow the plan to fall. Early in September a letter on the subject will be sent to every member of the Society. If you happen to be one of those who have already contributed, and receive this letter, pay no attention to it.

PROGRAM COMMITTEE.

The Committee on Scientific Program of the State Medical Society has met, organized, and laid out an excellent plan for the scientific program of the next session, which will be held at Coronado. Dr. A. B. Grosse of San Francisco was elected Chairman, and Dr. R. A. Peers of Colfax, Secretary. The President of the Society, Dr. Kress, has strongly recommended to the Program Committee that they require abstracts of the papers to be read to be in the hands of the committee at least sixty days before the meeting. This will allow the abstracts to be published in the JOURNAL of the month before the meeting, and permit those who are interested to attend and discuss the papers which principally attract their attention.

At this meeting of the Program Committee there was unanimity of opinion on several points in regard to previous programs. First, too many papers; second, too little new or original work; third, an insufficient number of interesting symposia; fourth, too much textbook re-hash. It has been positively decided that the number of papers will be strictly limited and that the committee will require an abstract of every paper and will consider the nature and scope of papers, eliminating such as are considered undesirable. Original research work of present interest will receive preferential treatment. Time for lantern slides and demonstration of plates will only be allowed for original work and will not be allowed for showing copies from textbooks or previously published reports.

Those who are interested in the general program and wish to be represented therein should address Dr. R. A. Peers, Colfax.

Those who are interested in any one of the various sections should address the secretary of the particular section. It is to be remembered that the Society at the last meeting created two new sections: Obstetrics and Gynecology, and Nervous and Mental Diseases. The chairmen of these sections respectfully request that all members interested in the respective subjects address the secretary as soon as possible so that lists of those desiring to join these sections may be prepared. The following are the various sections of the Society together with their officers:

Eye, Ear, Nose and Throat Section.

Chairman, B. F. Church, Redlands.

Secretary, G. P. Winternute, San Francisco.

Obstetrics and Gynecology.

Chairman, E. N. Ewer, Oakland.

Secretary, A. B. Spalding, San Francisco.

Genito-Urinary.

Chairman, Victor G. Vecki, San Francisco.

Secretary, W. E. Stevens, San Francisco.

Nervous and Mental Diseases.

Chairman, A. W. Hoisholt, Napa.

Secretary, J. Ross Moore, Los Angeles.

GRIEVANCE COMMITTEE.

It will be recalled that when the agreement between the committee of the State Medical Society and the committee of the Underwriters' Board of Adjusters was presented for consideration by the Society two years ago, part of the plan included the formation of a joint committee which should consider complaints and recommend solutions. This committee was duly appointed some time ago and is known as the Grievance Committee. The first session of the committee was held early in August and a considerable amount of preliminary work was done. It was an interesting meeting in several ways. In the first place, every member of the committee attended and every member took a deep interest in the proposed work of the committee. It was agreed unanimously that the committee would not consider hypothetical questions, nor would it act in an advisory capacity until a definite issue was presented. In other words, it would not advise an employer or an insurance company as to whether or not a bill should be paid until the issue arose between the doctor and the company, the company offering a reduced payment or objecting to a bill and the doctor flatly refusing the adjustment. Furthermore, it would not advise a physician in the matter of his charges until the issue between himself and the company, or employer, was definite. It was unanimously agreed that no fixed rules should be made and that each case should be considered by itself. Furthermore, in dealing with each individual case, the physician will be advised as to the attitude of the committee, and generally it will be necessary to inform him where he has not presented his case properly. The same information will be furnished the insurance company, or the employer, and if this does not produce a satisfactory adjustment, subsequent action may be taken.

The cases presented for consideration by the committee were, speaking generally, of two classes: 1, where the physician had obviously most dishonestly padded his accounts; and 2, where the physician had a just account but had not explained the circumstances to the insurance company. The insurance companies are perfectly willing to pay fees in excess of those specified in the fee schedule where the services given are unusual and extraordinary. The State Commission and all the insurance companies are perfectly willing to pay legitimate fees, but they quite naturally do not wish to be robbed.

CARELESS DOCTORS.

The good intentions of the various insurance companies, and the fact that they are dealing more than squarely with physicians, has been shown very clearly in more ways than one. In particular, however, it is very apparent that they have no desire to take advantage of technicalities. For example, under the Industrial Accident Law, the physician must present his claim for services rendered within six months; the claim outlaws at the expiration of six months. A great many physicians pay no attention to this and wait for eight, ten, or

even eighteen months before sending in their bill. In one case reported to the JOURNAL, the physician treated a number of accident cases quite satisfactorily to the insurance company, but during a year and a half did not send in any bill. At the end of that time he came to San Francisco and presented his collection of statements. These were entirely satisfactory in amount and were promptly paid, even though the statute of limitations had run against two-thirds of the amount.

Bear in mind that this work is somewhat different from ordinary professional work in that it involves a great deal of business. The reports required under the law should be promptly sent in and bills and statements should also be promptly sent in.

IN SUPPORT OF HEALTH INSURANCE.

A brief in support of health insurance prepared by the American Association for Labor Legislation and just issued from its New York headquarters gives in detail the facts which make health insurance legislation necessary in this country. The case for health insurance rests upon these fundamentals: the high sickness and death rates prevalent among American wage-earners; the need for more extended medical care; the necessity for a systematic method of meeting the wage loss due to sickness, and the need for further measures to prevent sickness. This situation, the report points out, cannot be met fully by existing agencies and can only be properly remedied by a system of compulsory health insurance embracing all wage-earners and dividing the cost among employer, employee and the state.

The absence of medical care common among wage-earners comes with the greatest force to the physician, partially because he is impressed by the large amount of gratuitous service always rendered by the medical profession. Nevertheless from 25 per cent. to 39 per cent. of the sick in industrial communities in the east have been found by actual investigation to be without medical care. To fill this gap, an extension of medical charity is both undesirable and improbable. It is undesirable because of its tendency to "pauperize" and because of the dread of charity felt by the American wage-earner; it is improbable because of that ever-present difficulty in financing such institutions and in distributing them according to the local need.

After an analysis of possible methods of providing medical care and a cash benefit to the sick breadwinner the Association concludes that compulsory health insurance alone offers the appropriate remedy. Moreover, health insurance contains possibilities for preventing illness not possessed by alternative forms of voluntary insurance. In the words of the report, "Compulsory health insurance is at once an economical method of providing for the needs of the wage worker and a mighty force for the inauguration of a comprehensive campaign for health conservation."

We cannot do better than to recommend a careful study of this brief to convince our readers that universal health insurance not only is inevitable but desirable and that it behooves the medical profession of California to be prepared on this question.

INFANT MORTALITY.

The seventh annual meeting of the American Association for the Study and Prevention of Infant Mortality will be held in Milwaukee, October 19-21, 1916. A number of very interesting subjects have been arranged for this meeting and undoubtedly it will be a very well attended session. Those who are interested in the subjects of pediatrics, vital statistics or infant mortality, can secure programs and full information in regard to the meeting by addressing the Executive Secretary, 1211 Cathedral street, Baltimore, Maryland.

SCIENTIFIC AMERICAN.

It is a great pleasure to announce the receipt of a letter from the editor of the *Scientific American*, in which he states that the lucubrations of Mr. Topliff, previously referred to in the *STATE JOURNAL*, are not in any way to be considered as emanating from the *Scientific American*, nor would that publication recognize the views set forth by this gentleman. It seemed strange that such a publication would allow this sort of material to go out under its name, and it is a great pleasure to state, on the assurance of the editor of the *Scientific American*, that the use of the name of that publication by the gentleman in question was entirely unauthorized.

WARNING!

The following warning has been sent out by W. B. Saunders Company. In addition to what they say, we can add that either this particular fraud, or some other, is now at work in California using the name of "The Progressive Department of the University of California." Of course there is no such department and the whole thing is a fake.

We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals and for medical books published by various firms. He usually represents himself as a student, working his way through college and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas and F. C. Schneider, and he usually gives a receipt bearing the heading of some Society or Association, such as United Students' Aid Society; the Alumni Educational League; the American Association for Education, etc.

The description given of this swindler is: Young man of the Jewish type, rather slender, with very dark hair combed straight back, and shows his teeth plainly when talking.

The whole scheme is a fraud. The Societies mentioned do not exist. The idea is to collect money by offering special discounts and prices on medical books and journals and skip with the money.

This young man does not represent W. B. Saunders Company, whose name he frequently uses. He is a fraudulent subscription agent, and physicians, generally, should be on the lookout for him.

MALPRACTICE RULES.

Again must our members be warned, to take particular notice of two very important rules made by the Society in regard to medical defense.

First, in all cases of fracture or injury to bones, joints and the like, an X-ray *plate* must be *made and kept*. The Society will not defend an action against a member arising out of such an accident or condition, where the member has not made *and kept* an X-ray *plate*, unless he offers a most satisfactory explanation of the reason why this was not done. During the last few years the *JOURNAL* has repeatedly warned the members of the Society that the time is quickly coming when courts will hold that the not taking of an X-ray plate is negligence. It is safe to prophesy that, although no court has up to the time of writing made such a definite ruling, some supreme court will rule in that way within the next two or three years. Several decisions have come very close to announcing this doctrine. Recently two members have been obliged to defend two suits at their own expense because of failure to comply with this rule.

Second, the matter of suing for the collection of an account within one year after the services were rendered. The Society will not defend a cross-complaint arising out of such a suit for collection, unless the member who wishes to bring the suit presents the case to the Council of the State Society and receives permission from the Council to proceed. Within the last two months three members have been obliged to defend actions of this character against them at their own expense.

Suits for damages for alleged malpractice against physicians are steadily increasing, and no single week passes without such a suit arising; in one week quite recently five suits were filed against members of this Society. In view of this condition of things, it is imperative that our members take every precaution to prevent the possibility of suits arising, and to make it practicable to defend them when they do arise. It is frequently a very difficult thing to prepare the defense in some of these actions, and when this has to be done without complete records in the doctor's possession the task becomes very much more difficult.

PURELY PERSONAL.

It is very seldom that the editor of this publication indulges in personal references to himself, but in view of the fact that certain members of the Society go out of their way to criticize the editor, not for what he does or says, but because he sometimes calls attention to certain unpleasant *facts*, the following letter indicating a welcome amount of appreciation, is published:

July 17, 1916.

My dear Doctor:

Enclosed find my check and note. I consider the plan a very sound one indeed, and trust enough members will come in to create a

very solid fund and place the plan upon a permanent footing.

You deserve our thanks for so fine an instance of constructive aid to the profession of this state. For one, I appreciate it, and am more than willing to do my full share and to throw a flower *ante-mortem*. The profession as a whole, here as in other places, is quite apt to carp and bicker when it comes down to basic matters of vital importance, especially if along new lines, or calling for breadth of vision; and more than willing to "let George do it"—and cuss him afterward, as a rule, because he tried to do it!

Well, perhaps self-gratification at a good end achieved is enough recompense, and that often is about all that is of a pleasant nature coming to a man or group of medical men, plugging away on state medicine for the good of all of us. No?

As perhaps you know, I have done my full share as the working donkey in another state in years gone by, and the present Practice Act and State Board of Examiners (as well as a bang-up good State Society) are to-day left in Idaho as a mark to the hard pioneer personal efforts of your humble servant. I say so, with all pride and truth, but just the same, it was quite a thankless task on the whole.

For personal reasons as above, I well know some of your official troubles; I am well able to see where you are winning out to the benefit of the rank and file, and so I say—more power to ye!

CULTIVATION OF VACANT LOTS.

"Perhaps one of the most creditable sociologic, as well as philanthropic and economic ventures in active and successful operation associated with Philadelphia, is that known under the corporate title of the Philadelphia Vacant Lots Cultivation Association.

"Idle land, such as is represented by vacant lots here, there, and everywhere held for speculative purposes, is loaned to the Association for cultivation by the ordinary well-known agricultural methods. It is then divided into gardens about one-sixth of an acre in size, and these gardens are assigned to families that have applied for them. These families are necessarily poor and consequently have no capital. Fertilizer and sufficient good seed are furnished to insure a good start to the gardeners, and the most improved methods of gardening are shown."

The above extract, taken from the *Pennsylvania Medical Journal*, June, 1916, p. 722, is convincing evidence of the fact that Philadelphia's vacant lots are serving a useful purpose: (1) Their cultivation rids the city of many an eye-sore. (2) They afford opportunity for infusing health and happiness into the members of a poor family of limited opportunities. Many a poor, incipient tuberculous individual is thus provided with a garden wherein he and his family can have the fresh air together

without breaking up the home, or depriving the family of even a part of its income.

In 1915, 671 families took advantage of the Association's offers, and there is a big waiting list!

But in this cultivation of vacant lots, Philadelphia is no doubt doing a great deal more than the Association itself realizes. It surely must be a tremendous relief to Philadelphia's hay-fever sufferers to be able to go about their business or pleasure without being inconvenienced by the growth of noxious weeds which usually flourish in vacant lots. For while many persons may consider hay-fever a subject for joking, it is no joke with the poor victim, who for several months each year is obliged to go about with itching, running eyes, and itching, running, reddened and sneezing nasal appendage. Formerly the sufferer from hay-fever, rose-cold, hay-asthma, etc., was looked upon as one member of the great neurotic family, for did not the medical profession in the past always label diseases it did not understand, as neurotic—at least until such time as it could put them down as rheumatic or due to perverted metabolism?

But at last, the hay-fever sufferer's stigma has been removed; he is only a poor unfortunate anaphylactic. And there is nothing easier than to destroy the source of at least a portion of his tormentors, such as certain weeds and grasses. To be sure, some sufferers are susceptible to rose pollen or to the pollen of certain trees, but these are a very small minority.

On June 30, 1915, the Board of Health of the City of New York adopted the following as Section 221 of its Sanitary Code:

"Growth of Poison Ivy and Rag Weed Prohibited.—No person owning, occupying, or having charge of any lot or premises in the City of New York shall cause, suffer, or allow poison ivy, rag weed, or other poisonous weed to grow therein or thereon in such manner that any part of such ivy, rag weed, or other poisonous weed shall extend upon, overhang, or border upon any public place, or allow the seed, pollen, or other poisonous particles or emanations therefrom to be carried through the air into any public place."

The City of New Orleans has recently adopted an ordinance, primarily for the relief of hay-fever sufferers. It provides that the tenant or owner of occupied or unoccupied premises, lot or other area, shall not permit weeds or grass over two feet in height on such premises, or over one foot in height on the sidewalk abutting such premises.

In California could we not do as much? Why not form an association for the cultivation of vacant lots? The Philadelphia experience shows how cheaply the plan can be worked out. The oil companies throughout the State have certainly done something toward improving our vacant lots—for yes, we do prefer a gas and oil station to a lot of weeds. A few San Francisco downtown apartment houses have cultivated adjacent lots. We believe it would require but very little encouragement to start a state-wide movement along these lines.

And in the meantime, let our Boards of Health adopt, and please, also enforce, an ordinance similar to the New Orleans one. RENÉ BINE.



GEORGE L. PAINTER, M. D.

On July 22, 1916, Dr. George L. Painter, one of the best known men in our Society, was killed whilst participating in the Preparedness Parade in San Francisco.

Dr. Painter was born in Richmond, Virginia, July 10, 1871, and received his degree from the University of California in 1896. He leaves a widow and daughter.

Dr. Painter was a member of the old First Regiment of California Volunteers. He had answered the call of his country, and in his quiet and unassuming way had entered the Army of the Philippines as an hospital steward, though he was a qualified physician. He fulfilled his duties silently, without bombast and with thoroughness. He sickened under the strain of the work, and this very sickness brought him to the attention of his superior officers, who then realized, from personal contact, what kind of a man he was, and straightway recommended him for a commission in the Volunteer Service.

At the time of the fire of 1906, Dr. Painter was one of those who for over seven months devoted his entire energies to the work of relief, and during those trying days he acted as Camp Commander of one of the largest relief camps in the city. Thousands of people here learned to appreciate and love him.

His gentle manner, his positive integrity, and his unceasing efforts to oblige, won the friendship and strong liking of all who met him.

Dr. Painter's position in radiology was so well known to the profession as to require no comment. His unusual modesty alone prevented his frequent appearance before our Society. At the time of his

death he was the President of the Pacific Coast Roentgen Ray Society.

His profession, his family and his garden filled his life. Silently and unassumingly he did his work, and "his highly trained austerity was such that self-denial never cost him much."

ORIGINAL ARTICLES

THE VALUE OF FUCHSIN IN UROLOGY.*

By VICTOR G. VECKI, M. D., San Francisco.

It is an acknowledged fact that gonorrhea, when giving any subjective or objective symptoms, has ceased to be a surface inflammation and de facto is an infection of the submucous tissues.

It is also an indisputable fact that the great majority of gonorrheal infections become chronic and that urology so far must confess its helplessness in the treatment of some sequelae of this greatly despised and, notwithstanding our advanced knowledge, still greatly underrated disease.

The demand for a chemical germicide possessing the power to penetrate the tissues and destroy the gonococci entrenched beneath the surface of the mucous membrane, without at the same time injuring the mucosa itself, was before us the many years, since in the early seventies of the last century Sigmund devised the urethral syringe and started the local treatment of the gonorrheal infection.

Since then almost everything therapeutically imaginable was tried in the urethras of the many millions of unfortunate victims. Remedies came and went, reputations were made and lost, and fortunes were amassed by manufacturers only, of course,—but the ideal germicide is still being sought for.

While I am not ready to assert that fuchsin is this ideal in every respect, my experience has taught me that it will do more and better in the urethra and in the bladder than any other remedy I know.

Fuchsin (fuchsine) or magenta anilin red is a coal-tar product, appearing in the form of dark green crystals, but deep-red in solution.

When Dr. Stabel of Redding, in 1914, reported to me the excellent results obtained with a fuchsin solution in a case of tuberculosis of the bladder I cystoscoped for him previously, it occurred to me at once that most germs are fuchsinophil, and that fuchsin therefore must have great possibilities. At first I tried it cautiously in various mild and chronic ailments; gradually the use was extended to tedious, painful and acute inflammatory conditions. Results were invariably good, the reactions mild, the pain inflicted upon the patients hardly noticeable, never protracted, always negligible; a second application never dreaded. Gonococci, colli bacilli and other pathogenic germs disappear rapidly from the urethra and bladder, consequently most discharges cease after a few applications: of course, organic changes commonly found in the

* Read before the annual meeting of the California State Medical Society, Fresno, Cal., April 20th, 1916.

urethra and bladder must be treated by the usual methods.

Special care must be taken in the preparing of the solutions. Undissolved particles of fuchsin cause very disagreeable symptoms in the urethra and more so in the bladder. Only the best brands of medicinal fuchsin should be used. Isorubin, also called new-fuchsin (*neu-fuchsin*), being easily dissolved in water and free from arsenic is probably the best of all preparations.

At my office three kinds of solutions are always on hand. For the 1% solution 10 grammes of fuchsin are placed into a mortar and crushed, then 20 grammes of absolute alcohol are added, the mass carefully stirred, and after 15 minutes 980 grammes of distilled water added to the solution. The half, and the quarter per cent. solutions are prepared in the same way with proportionately smaller quantities of fuchsin and alcohol. As an excess of precaution all solutions are filtered immediately before being used, and it is hardly necessary to emphasize that everything must be done under strictly aseptic conditions.

When using fuchsin good care must be taken to do it just right; otherwise the operator, the patient and the whole office will present a sorry sight. When I began to use it there was some mutiny amongst the office help, and at times I felt discouraged. At present it occurs only rarely that a drop is spilled, though as a precaution the wall opposite to the side on which the patient stands is protected by white oilcloth from which eventual fuchsin-stains can readily be removed.

Many years of experience have taught me that no local treatment in the urethra or bladder should be given unless the patient had his intestinal tract thoroughly cleaned out. The patient, before being given a fuchsin treatment, therefore, is instructed to take a sufficient dose of any good saline laxative. Whenever the prostate and the seminal vesicles are involved they must be mildly but thoroughly massaged, then the patient is ordered to empty his bladder, the urethra is irrigated with warm sterile water, and then a two-ounce, all glass syringe is filled with the fuchsin solution of desired strength, a soft rubber olive-shaped tip attached to it, and the contents injected into the patient's bladder.

It is best to grasp the glans penis immediately below the sulcus glandis with the left hand and press the tip of the syringe with the right hand into the meatus. Both hands acting together, the meatus is tightly occluded, and the contents can easily be injected. Whoever has any experience with the Janet syringe will easily avoid undue force and subsequent unnecessary pain and eventual injury to the urethra.

The effect of the intravesical injection of fuchsin

is increased when the bladder is emptied at once, which is always possible, though most patients at first claim it cannot be done.

The patient's clothes must be protected during the whole procedure, a cotton pad wrapped loosely around the penis after the bladder is voided, and the patient must be told that his urine will be stained red for at least 12 hours after the treatment, because some impressionable persons become easily frightened, thinking they are passing blood.

In acute gonorrhea my experience with fuchsin is rather limited. Unfortunately acute gonorrhea appears at the urologist's office comparatively seldom. Most people still think that any one is capable of giving advice for such an insignificant trouble, and expert help is sought, as a rule only, when disagreeable and stubborn complications teach the bitter lesson.

In the few cases of acute gonorrhea treated with fuchsin the results were most remarkable. After the presence of the gonococcus was microscopically established the patient was ordered to void his bladder, the meatus cleaned, a half-ounce all-glass urethral syringe armed with a rubber tip filled with sterile, warm water, the urethra flushed; then the syringe filled with a quarter per cent. solution of fuchsin, and this solution injected into the urethra. It is not necessary to retain the solution in the urethra more than a few seconds; it sticks to the mucous membrane all right.

That fuchsin really penetrates into the deeper layers of the mucous membrane can easily be ascertained in chronic cases permitting an urethro- or cystoscopic examination. There is also no doubt in my mind, that whenever an intravesical injection with a hand-syringe is made the prostatic gland previously being thoroughly emptied by proper massaging, the fuchsin solution finds its way into the ejaculatory ducts and probably beyond them. So late as 48 hours after such a treatment the massaging of the prostatic gland will yield a fuchsin-stained secretion, and patients have repeatedly reported uniformly fuchsin-stained nocturnal seminal losses.

In acute urethritis the fuchsin injections should be made every three days once, gradually increasing the strength of the solution used. On the intervening days the urethra should be irrigated with warm solutions of quinine, or some other mild antiseptic solution. Discharges remaining after the pathogenic germs have disappeared yield very easily to astringent but mild injections.

In chronic inflammations of the posterior urethra, in chronic prostatitis, and the various forms of cystitis, the fuchsin treatments are best given once a week or once in ten days, and never before all traces of the previous application have disappeared.

The patient should not be discharged as cured until frequently repeated examinations have shown absence of pus and bacteria, and until all subjective symptoms have disappeared. It is advisable to instruct the patients to present themselves once a month for examination three or four times in succession, even after a cure seems to be perfect.

I shall report in the near future on the behavior of fuchsin in the kidney pelvis.

INDUSTRIAL HERNIA.

By WM. B. SMITH, M. D., Randsburg.

Report of a recent decision by the Industrial Accident Commission broadening the definition.

The working definition of industrial, or traumatic, hernia laid down by the Industrial Accident Commission has been in brief this—(quoted from a letter to the author from them in reference to a case): "The rupture must occur at once following an unexpected blow, fall, or strain greater than the individual meets in the regular run of his occupation. The production of the rupture must be accompanied by pain that disables the patient at once and continuously, and makes immediate recourse to the surgeon imperative. The patient must furthermore furnish clear evidence of non-existence of hernia previous to the alleged accident." This definition has been evolved on the premise that true accidental, or traumatic, herniæ are exceedingly rare, and that the alleged accident is usually the occasion, and not the cause of the rupture. Therefore insurance carriers have felt that every hernia case is a border line one, with considerable expense involved in coverage, and a probable responsibility traceable to congenital weakness; therefore they have always insisted on a close correspondence to the above definition to assume the expense of operation and care.

Recently there came to my hand from a firm whose accident work I had been carrying, a case of left oblique inguinal hernia in one of their employees. This had been bothering him rather constantly for three weeks, and had gradually been coming down over a period of three months under the stress and strain of the heavy lifting of his regular work as a truck deliveryman of white lead and other coloring matter. He had first noticed a lump in the left groin three months previously when delivering a three-ton load in one hundred pound kegs. The lump was painful at the time of appearance but went away at night, occasionally reappearing when straining or lifting heavily, but he could always push it back and it was only necessary for him to hold his hand over the spot for a while to secure relief. He was, of course, suspicious that he was ruptured, but he was fearful of losing his job and was sure it would go away in time, so he did not report it to his employer, nor did he ever seek aid during this time. He claimed not to have worn a truss, and a close examination failed to show any truss marks. On the day before coming to me he had attempted to lift an eight hundred pound barrel of white lead with his helper. He claimed to have felt something tear loose in his groin with such pain that

he was compelled to sit down for a while and could do no more lifting that day. He rode on the truck, however, the rest of the day and attempted to go to work the next morning, but the painful lump in his groin and a general feeling of weakness caused him to report the condition to his foreman, and he was then sent to me for examination and treatment.

The above history was elicited with clear evidence of non-existence of hernia before entering the employ of this firm, and his previous work had never called for any such lifting as came in the day's work for this paint firm. Detailed examination bore out the history in every particular and I felt that the lad's rupture was really caused by his work, and in another line of work not requiring heavy lifting, the natural barriers, even in a congenitally patent ring, would have been sufficient to prevent hernia.

Operation was advised and accepted by the patient with the understanding that he should assume the costs if the insurance company refused coverage. The case was reported to the firm's liability carrier, in this instance the State Compensation Insurance Fund, and the patient was operated two days later without waiting for a decision by the medical department of the fund. A careful dissection of the operative field bore out the details of the case history, contents of the sac had dropped back into the abdomen, the sac was about four inches long, was not thickened, was bound to the cord by light adhesions in its outer two-thirds, and showed a very wide base free from adhesions. Some evidence of recent traumatism was observed in the inner muscle border of the internal ring. We believed the findings showed a comparatively recent sac covering the history of three months' trouble, with a very recent accession in the hernial mass as a result of his heavy lifting, as evidenced by the wide base free from adhesions to the cord and traumatism to the muscle fibres of the borders of the internal ring. An Andrew's modification of the typical Bassini technic was used, perfect healing resulted, and complete cure has followed so far as the history goes to date.

Two days after operation a curt note from the officials of the state fund informed me that I might submit reports in the case, but from my description of it their decision was against its being a true traumatic hernia within the meaning of the law, and therefore not covered by the fund. Furthermore I was requested to delay operation in future cases of the sort until authorized to go ahead by the medical department. The above definition was again called to my notice.

The patient was given the usual two weeks in

bed in the hospital, one week in bed at home, and three weeks additional freedom from work. The boy was then discharged as cured. A final detailed report was submitted to the state fund with my bill for \$76.50, which included the assistant's fee of \$10.00, and the anesthetic bill of \$5.00. Later at the hearing of the case before the commission, the attorney for the fund stated that this bill was considered excessive. A friendly discussion, entirely outside the record, showed that my bill was entirely according to the fee schedule, but must have therefore covered an excessive number of post-operative calls. My statement that the case was a private one until assumed by the insurance carrier was received in good part and the bill recorded unchanged.

Soon after my final report to the state fund a decision by the adjuster came back refusing to cover the case on the grounds that it was not an accidental hernia as defined by the law, and requesting me to look to the patient for remuneration. A prompt hearing was asked by the patient and granted by the Los Angeles Department of the Industrial Accident Commission. Details of the case were submitted and sworn evidence produced to show that the boy had been free from hernia under ordinary stress of previous jobs, and that the gradual development of a left oblique inguinal hernia did come over a period of three months as the result of the heavy lifting in the course of the work he was then doing. The record was filed for later action by the Industrial Accident Commission.

After two months I wrote to the medical department of the fund asking for a report on the final disposal of the case, and was informed a third time that the state fund had dismissed it. I was agreeably surprised two weeks later to open one of their long envelopes and extract a wide green check for \$76.50 covering in full my services to this boy. A prompt letter from my happy patient informed me that he had received a check covering full compensation for his period of disability. In other words we may now broaden the definition of industrial hernia to cover all cases that can truly be shown to have resulted from and during the patient's occupation.

I am reporting this case because the conclusions to be drawn from it are of interest to the whole medical profession. First it demonstrates again the absolute impartiality of the commission, and that the state fund takes its chances in every decision along with every private company. Second the case shows the need, as an economic business principle, of complete physical examination of every man covered by the liability act, to discover existing pathology and congenital weakness, and then to adequately guard against disability in each case found to be abnormal. I believe that this broadening definition of industrial hernia results from the humanitarian desire of the interpreters of the law to make the effects of the act truly corrective in their application to industrial disabilities, whether in the nature of accidents or industrial diseases.

DIAGNOSIS AND TREATMENT OF POLIOMYELITIS IN THE PRE-PARALYTIC STAGE.

By JOHN ADAMS COLLIVER, A. B., M. D., Los Angeles.

"Infantile Paralysis" is one of our most ancient and common diseases of children, yet without paralysis a diagnosis has been practically impossible. The whole clinical picture of the preparalytic stage is that of infection or meningitis. When the symptoms are properly coordinated it is only then merely suggestive of poliomyelitis, and even with lumbar puncture there is some degree of doubt. During an epidemic, or when one is threatened, it is always well, however, to keep the early symptoms constantly in mind. The early time is the best time, and I believe the only one in which to begin successful treatment.

As a rule the first symptom, and often at the time overlooked, is a change in the disposition of the child, manifested either by marked irritability or indisposition to play. This irritability may be in the form of crying in the night, starting in the sleep, or crying spells without apparent cause during the day. This may be followed later by drowsiness; many times unaccountable vomiting, present alone or associated with constipation or diarrhoea. In the majority of my cases, however, during the preparalytic stage, the bowels have been loose with a tendency to tympanitis.

Practically all cases have more or less fever and loss of appetite, with intestinal disturbances, as mentioned above.

The nervous symptoms are characteristic of meningitis. The irritability becomes more pronounced and either proceeds to hypersensitiveness or drowsiness. The reflexes are more active, later somewhat sluggish, and finally entirely lost. Occasionally the exaggeration and later the absence of a knee jerk or abdominal reflex is the only suggestive sign of approaching paralysis. There is often difficulty in cerebation. The gait is many times changed. The skin becomes extremely hypersensitive so that the touch is almost painful. The child also often becomes hypersensitive to sounds. The back is not so flexible, and sitting up in bed is done with difficulty. The neck becomes somewhat stiff so that it is difficult to get the chin on the chest. Later the stiffness increases and may even go to retraction before the appearance of paralysis.

There is localized sweating of the hands, head, neck, and forehead. This is no doubt due to disturbance of the sweat centers or loss of the vasomotor control. This sweating is one of the most important early symptoms.

According to most authors, pain either in the head or limbs is a common and almost constant symptom, but it has not been my experience to find this so trustworthy. The common belief among the laity and many of the profession that "Infantile Paralysis" is preceded by pain causes parents in their great anxiety and fear of the disease to suggest this symptom. This, considered with the fact that the skin is hypersensitive, makes

the report of such pain so vague and indefinite that it has caused me to practically disregard it especially among young children. If a child is old enough, however, it may complain of genuine headache or aching limbs, but it is still my impression that this symptom is exaggerated by suggestion.

In many children the symptoms above mentioned have either been overlooked or absent, and the first noticeable sign was lack of coordination on the part of the child. This is manifested by an inability to hold things in the hand, falling easily, knocking things over at the table, spilling water or milk in attempting to drink from the cup, difficulty in handling or holding objects, etc. These are all manifestations of changes in coordination.

The above symptoms are recognized by the best authorities as being characteristic of the early stages of poliomyelitis. There is none among these which is absolutely characteristic of the preparalytic stage.

During the epidemic of 1913 in Los Angeles I made a few hundred observations of a symptom in sixteen cases which seemed absolutely characteristic of this preparalytic stage. The symptom has been of great value to me, and I am now submitting it to you to test its merits and to solicit criticisms and case reports.

My symptom was first described in the *American Medical Journal*, March 15, 1913, and afterwards published in full in the *California State Medical Journal* in November, 1913.

NEW PREPARALYTIC SYMPTOM.

The symptom referred to is a peculiar twitching, tremulous or convulsive movement of certain groups of muscles lasting from a few seconds to less than a minute. The amplitude of vibration is greater than a tremor, not so constant and long as a convulsion, and more regular than mere twitching, yet it has some elements of all these. It usually affects a part or whole of one or more limbs, the face or jaw, but it may sometimes affect the whole body. This symptom appears from twelve hours to three days before paralysis—usually about forty-eight hours.

It may easily be overlooked in the beginning, as it usually lasts less than a second, and unless the patient is disturbed does not recur oftener than every hour or so. Later the duration of the spells lengthens to a few seconds, recurring also at shorter intervals.

This condition is often accompanied in infants by a peculiar cry similar to the hydrocephalic. At times there is a slight convulsive movement, during which time the child is apparently unconscious with eyes set for a few seconds, and then it apparently becomes perfectly normal again. This brief unconsciousness may also occur without noticeable convulsive movements. It acts thus sometimes like a petit mal. I have observed it as a twitching of the lips with tongue running in and out and a working of jaw, preceding bulbar cases.

The phenomenon resembles that found in light

cases of strychnine poisoning except that the tetanic contractions are not general and do not last for so long a time. It usually involves a set of muscles with one or more of the counter muscles not affected. There is also a similar hypersensitiveness of the skin. The least stimulation of the skin is followed by slight convulsive movements with rigidity of the arms, fingers separated and wrist flexed. When the patient turns in bed, through either an external stimulus or an effort to coordinate, the movements are quick and jerky, accompanied usually with slight convulsive movements of the limbs. The least noise produces in certain cases short series of convulsive movements similar to those in strychnine poisoning, only not so general.

It is not unreasonable to suppose that the presence of the virus of poliomyelitis may bring about effects similar to those of chorea and tetany. A local chemical or other irritation of the nervous centers is produced with subsequent fatigue and later recuperation, resulting in the peculiar motor phenomenon which I have described as a preparalytic symptom.

THEORY OF NEW SYMPTOM.

According to the best authorities (Flexner, Lewis, Draper, Peabody and others) during the early stage the spinal fluid contains great quantities of the virus which disappear more or less as soon as paralysis sets in. With this there is an increase in spinal pressure which throws the ganglia and cells into a highly excited state. Some areas are attacked more than others, and we have a series of explosive contractions followed by rest similar to the artificial chemical excitation with fatigue manifested in a muscle-nerve preparation. This accounts for the local tremulous, twitching, convulsive petit mal phenomena.

It will be remembered that the virus attacks not only the nerve tissue but also the vascular system. According to Peabody, Draper, and Dochez, there is a cellular exudate surrounding the vessels and pressing on the lumen. Edema with or without hemorrhages, large and small, into the cord is not uncommon. The blood supply in the cord is horizontal, while the nerve supply to a group of muscles is not all derived from the same segment. The cord may be affected in some segments while not in others. This would account for the peculiar distribution and lack of coordination. The results of this condition are always noticeable in convalescence, when children have had to learn to walk and to feed themselves again, and others to learn again to talk.

The only reference found to this symptom in literature is made by Wickman, Zappert and Wilbur. Wickman observed one phase of it, and but once in his many cases, while both Zappert and Wilbur observed only the muscular twitching in the limbs. I have not worked out to my satisfaction the relation of the local symptom to the paralysis.

TREATMENT.

The most consistent and efficient treatment must be begun before paralysis appears. Therefore, an

early diagnosis is indispensable. It has been proven that during the early stage of poliomyelitis the spinal fluid contains the largest amount of virus (Flexner). In addition to this the fluid is under increased pressure. I have observed the fluid as high as 210 m.m. This produces the well known classic pressure symptoms. These symptoms can be more or less relieved by lumbar punctures. This procedure has an added value in that it dilutes the virus.

In addition to this, the early prescribing of large doses of Hexamethyldiamin (urotropin) is indicated. It is indicated because this drug is non-toxic, and is one of our best germicides. During an epidemic it should be started at the first sign of irritability, change in disposition or co-ordination, and at all times upon first indication of my symptom. Better make a mistake than wait too long. No harm can be done. Evidence of this drug appears in the spinal fluid shortly after its administration (Cushing and Crowe). It is capable of lengthening the stage of incubation in monkeys previously inoculated, and in some instances of actually preventing paralysis (Flexner and Clark).

The lumbar puncture dilutes and eliminates to some extent the virus, while the drug tends to destroy, or at least inhibit the growth of the organism in the spinal fluid. These two procedures in conjunction I believe are the best treatment we have to-day. Cases so treated in my experience were the only ones that have recovered.

Epinephrin, first used by Clark in 1912, has again been used in the present New York epidemic, but with no constant degree of success. There is no report of its administration in the preparalytic stage.

The treatment which gives greatest promise of being specific—the serum—whether of convalescent or the immunized, will certainly be more effective, the earlier begun.

It is thus very evident that if you expect to effect a cure you must make an early diagnosis and begin treatment before paralysis appears.

THE REMOVAL OF FOREIGN BODIES FROM THE ESOPHAGUS AND RESPIRATORY TRACT.*

By H. B. GRAHAM, M. D., San Francisco.
Assistant Clinical Professor of Surgery, Stanford Clinic Medical School.

I have had fourteen cases of foreign bodies removed by means of the esophagoscope or bronchoscope, four from the respiratory tract and the rest from the esophagus. The number is not large when compared with the 388 which Jackson had done up to 1914, but our field is small and we must be content to learn from a smaller material.

The problems involved were varied and instructive, and demonstrated above all other things that the crux in this, more than in all other surgery, is preparedness. One is fascinated when reading Dr. Jackson's book on the subject, by the apparent smoothness with which everything goes, but one

cannot be surprised when he notes the profound attention that has been lavished on the smallest detail of the subject. Jackson realizes that the successful endoscopist must not only be a surgeon but a mechanic, with a penchant for infinite pains, and it is this element that has permitted him to say that in 3000 endoscopies neither he nor Dr. Patterson has ever failed for want of a light. Anyone who has done this work will realize fully what this means.

Our armamentarium consists of a Bruning and a Kahler set of bronchoscopes, esophagoscopes and laryngeal spatulae, and a Killian hanging laryngoscope, together with the necessary forceps, sponge holders, suction apparatus, etc. I have never worked with the distally lighted instrument such as Jackson uses.

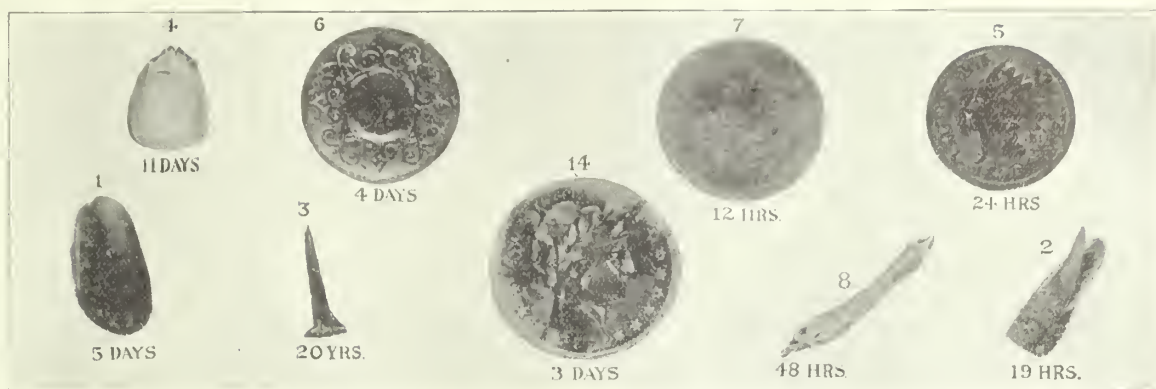
The expense connected with this work and the small income derived therefrom lead us to feel that each large center of population should have a complete outfit, provided by the State or University, which should be in the hands of a paid bronchoscopist. Most cases could be transported to this center, and at least one man in the community would be ready to take care of this emergency work. A large proportion of deaths has occurred, not from the simple presence of the foreign body, but from unsuccessful efforts at extraction, and a goodly number of these could have been avoided by a better technic. This can only come through experience, and experience only through focusing the work.

The anesthesia in my cases has been general or local, according to the case. I admire that dexterity which admits of no anesthesia, but consider that for those of us who have not been able to acquire it, there is greater safety for the patient in either the quietude of a deep general anesthesia or a thorough cocaineization. I learned early that having introduced the instrument into the bronchus under general anesthesia, a light anesthetic could be continued as long as there was not much motion in the bronchoscope, so that a comparatively long sitting would be accomplished under very little ether if care was used. All adult cases have been done under local anesthesia.

The sitting position was used for local anesthesia, as my training was in Vienna where that position was universally used. The Boyce position seems the most logical and will be adopted in future when local conditions will permit. In this position, the patient is on his back on a table, with the neck supported well forward by the assistant's right arm, and the head supported by the assistant's left hand. The assistant sits at the left of the head of the table, his left elbow resting on his left knee. This gives the greatest amount of freedom in handling the patient, the greatest control of the patient, and utilizes gravity to help in the extraction of the foreign body.

The marvelous strides made by bronchoscopy are shown by Jackson, who states that von Eichen's list of 300 cases occurring up to 1909 gave 13.1% deaths. Kahler's list of 291 cases occurring in 1909-10 gives 9.6% deaths. Jackson's list of 171 American cases gives 5.3% deaths.

* Read before the Forty-Fifth Annual Meeting of the Medical Society of the State of California, Fresno, April, 1916.



Name	Age	Foreign body	Time of Retention	Location	Tube	Anes- thetic	Forceps	Result	Time	Route	Remarks
1 J. Bush	10	Pine nut	5 days	Right In- ferior Lobe Bronchus	8-10	Ether	Hook	Extraction Cure	3 hrs— 2 sittings	Tracheotomy wound	First case undertaken and al- though the nut was easily acces- sible it was not dislodged per orally. X-ray did not show nut
2 Van Noate	12	Metal whistle	19 hrs.	"	10	Local	Plain	"	1 min.	Peroral	
3 Rigney	46	Tack	20 yrs	"	"	"	"	"	10 min.	"	Much secretion removed by suc- tion in erect position delayed re- moval. Tack lay free in pus filled bronchus which did not show much change.
4 Anderson	12 yrs. 9 mos.	Corn	11 days	Trachea sub-glottic	Killian Spatula	Ether	"	"	"	"	Difficulty in slight arrangement made tube passing impossible. The kernel evidently became al- ternately impacted in a bronchus and free in trachea. X-ray did not show corn.
5 Sadler	3	Cent piece	24 hrs	Esophagus below cricopharyn- gus	8	"	"	"	3 min.	"	
6 Rupperecht	5	Metal toy dish	4 days	"	"	"	"	"	"	"	
7	6	Telephone ring	12 hrs.	"	"	Local	Plain	"	"	"	
8 Klein	40	Chicken bone	48 hrs.	"	10	"	"	"	Two at- tempts. 2d after an X- ray. 5 min.	"	In first attempt tube passed over bone which was curved and lay anteriorly in transverse position
9 L.	30	Chicken bone	24 hrs.	Esophagus at Hyatus	10	"	"	"	10 min.	"	Bone grasped at one end and pushed down; then other end grasped and bone removed
10 11 12 13		Meat lodged in esophagus in cases of Carcinoma									
14 A. B.	4	25c piece	3 days	Esophagus below cricopharyn- gus	6	Ether	Double hook	"	5 min.	"	

For esophagoscopy for foreign bodies, we have in large clinics a mortality of 3%. Jackson in 206 cases had a mortality of 2%.

I was fortunate enough to have no deaths in my small list, and I only trust that I will not fall in with cases of foreign bodies in the periphery of the lung, or cases that have been roughly handled before being brought to the bronchoscopist, which two elements account for most deaths. All my cases made uneventful recoveries. My first case was done through a tracheotomy wound and lasted all told three hours, and still showed no ill after effects. These results are accomplished by gentleness in manipulation alone. There is grave danger in a prolonged sitting, but this is more than quadrupled by rough handling, as is amply proved by statistics. A bull in a china shop is a term that should never be applied to an endoscopist, for his shop contains Dresden china and it should be handled accordingly. The general practitioner should understand thoroughly that the removal of foreign bodies is a delicate undertaking, requiring a detailed knowledge of the anatomy of the special part involved, together with a perfect armamentarium, and technic acquired through practice; and that the more he tampers with the case the more difficult he makes the work for the endoscopist.

Bougies should not be passed in suspected cases. Efforts at removal should not be made by finger or gravity, lest trauma or impaction in the larynx occur, producing death before help can arrive.

X-rays should be taken by men who are accustomed to hunting for foreign bodies, and not by anyone who happens to have a machine. A negative plate does not mean that there is no foreign body, and a negative plate might delay placing the case in the hands of one who knows the treacherousness of all the branches connected with the work.

Points of special interest in the cases seen:

Case 1. Girl, age 10 years, who five days before had inspired a pine nut. This had lodged in the right inferior lobe of the bronchus and cast little or no shadow on the X-ray plate, on which account there was a delay in calling an endoscopist. The physical signs were those of a foreign body occluding the right lung and the nut was easily located with the bronchoscope. It was not so easily extracted, however, on account of the shape of the nut, the impaction, and the swelling of the mucous membranes. After a two hours' seance a tracheotomy wound was made, a larger and shorter tube used, and a hook, which had been made especially for the case, was introduced. After



X-Ray of Case of Number 2

several efforts the hook was carried beyond the nut and a successful issue was obtained. The patient made an uneventful recovery.

Case 3 is evidently the second longest sojourn of any foreign body which was removed by bronchoscopy. Jackson removed a collar button from an abscess below a fibrous occluding bronchus, in a man 46 years of age, which had remained in the lung 26 years. He had to excise the fibrous tissue before he could grasp the button. My patient was a man 46 years of age who had inspired a tack twenty years previous and had been treated ever since for tuberculosis. At 38 he had had pneumonia. At the time of inspiration of the tack, violent coughing had ensued and bright red blood was expectorated. In an hour there was more coughing and more blood. Since then there has been frequent hemoptysis, cough and pus, with marked night sweats. On June 12, 1915, the



X-Ray of Case of Number 3

United States Public Health Service at the Panama-Pacific Exposition took an X-ray of the lungs and located the tack in the right lower bronchus. A bronchoscopy showed the tack lying free in the bronchus, and it was easily removed after much pus had been extracted by suction. The most interesting part of this case is the resistance of the bronchus to the foreign body. There was no abscess cavity and no cicatricial tissue. The bronchus was comparatively normal in appearance although the tack was badly eroded. This case clearly illustrates the necessity of an X-ray of all doubtful cases of lung affections.

In case 4, the foreign body was a kernel of Indian corn which had been eleven days in the trachea of a child nearly three years old. The kernel evidently became alternately impacted in a bronchus and then expelled into the trachea. At the time of the extraction it lay just below the vocal cords and was removed by a laryngeal spatula and plain forceps. In this case an X-ray showed no shadow.

Case 8 had a chicken bone in the esophagus behind the larynx, so placed that the tube passed over it into the esophagus and the bone was not discovered at the first sitting. An X-ray disclosed its presence and it was easily removed.

In case 9, the chicken bone was in the lower third of the esophagus and was grasped at one end, pushed downward, and removed by obtaining a fresh hold on the then superior end.

PERIODONTAL SEPTIC FOCI.*

By T. SYDNEY SMITH, D. D. S.

The subject of periodontal diseases (pyorrhea alveolaris) which we are to consider to-night is now recognized to be one which every medical as well as dental practitioner should thoroughly understand. At present, however, we will deal only with such phases of the subject as the diagnosis, etiology, and systemic effects of these diseases, with brief reference to the conditions which can be accepted as constituting a cure of them, and how this may be brought about. Even these phases will be treated merely from the general medical point of view.

Let us first consider some of the most important facts regarding the tissues which become involved in periodontal lesions in order to be better able to detect the incipient stages of these diseases in our own mouths as well as in those of our patients.

When normal, the supporting structures of the teeth are firmly attached to the entire surface of the cementum. In early life, while the teeth are erupting, the gums may cover a considerable portion of the crowns. They are not, however, vitally attached to the enamel. During this formative period the gums are slightly red. As the development of the teeth continues, the margins of the gums contract to a point which slightly overlaps the gingival margins of the enamel. Up to this point the contraction of the margins of the gums is a perfectly normal, physiological process,

* Read before the San Francisco County Medical Society, January 25, 1916.

but any further recession indicates some irritation or infection which should receive prompt attention. In adult life the margins of the gums, if normal, are thin and closely drawn around the gingival margins of the enamel, overlapping it slightly as has been stated. Such gums are uniformly pink, and do not bleed unless they are injured. The prevailing notion that red gums are healthy is not correct.

If the pericemental fibres are injured, or infected, the overlying tissues at once become red. Such an injury or infection may at first cause only a hyperemic or hypertrophied condition of these tissues, but if the infection is permitted to continue the pericemental fibres become detached from the cementum at that point, and form pockets of varying depths. These lesions may develop on one side of a root while the tissues on the other side remain almost normal. The pockets may extend from 12 to 14 m.m. beneath the margin of the gums. Usually the overlying tissues in these advanced cases have a bluish red color so that the presence of the pocket is easily detected, but occasionally they are pink, and the pocket can be detected only with an exploring instrument. In some cases the margins of the separated tissues become absorbed leaving portions of the roots of the teeth exposed. When the tissues become detached from the roots, the calcium salts which are held in solution in the blood escape from the broken vessels and are deposited on the surface of the cementum. Sometimes these calcic deposits form coarse, irregular nodules. In other cases they are so thin and hard, and so thoroughly embedded in the porous surface of the cementum that their presence is not easily detected. These serumal deposits must not be confused with the salivary deposits to be referred to later.

Periodontal diseases are so frequently met with that it is almost impossible to find an adult patient who has not at least the incipient stages of them around a few of his teeth. Proper care, however, will prevent this condition. Unfortunately the majority of people pay very little attention to the early stages of these diseases. Not infrequently one finds even medical and dental practitioners who have permitted their gums to bleed for years without paying any attention to it.

THE CAUSE OF PERIODONTAL DISEASES.

Much of this indifference towards these pathological conditions can be traced to the erroneous teachings of men who were supposed to be authorities on this subject. Several of these writers have persistently stated that the destruction of the supporting structures of the teeth is a normal, physiological process. Hopwell-Smith¹ recently wrote: "The teeth of dogs, cats, monkeys, and other animals, either in a domesticated environment or *natura fera*, become loose as time passes by, as a direct consequence of the absorption of their sockets—a physiological process. Man becomes more and more inclined to be edentulous as he advances in life, a part of the decadence of his vital powers."

Talbot² has also done much to spread this harmful theory. His statement is: "Man has

two sets of teeth; the first is lost, and a second set takes its place. These in turn will be lost if he lives long enough. As soon as the alveolar process has obtained its growth (in degenerates it commences much earlier) interstitial gingivitis sets up, and there is a *gradual absorption* of the bone from the start. Nature is trying to shed the second set of teeth."

These teachings have been given wide publicity, and for a time almost paralyzed dental progress. Those who believed this theory felt no responsibility as they watched their patients' gums recede from year to year. At any rate they made no intelligent attempts to detect or prevent periodontal diseases.

Some investigators, observing that many systemic diseases are closely connected with periodontal lesions, and not understanding the results of bacterial invasion of the body from these lesions, concluded that periodontal diseases are mere local manifestations of graver systemic conditions. Their conclusions were apparently strengthened by the fact that they met with failure in their attempts at local treatment. These failures, however, were due to imperfect surgery and to the practice of introducing acids, germicides, and flour of pumice into the wounds. Some of these men worked out elaborate theories to show that periodontal diseases result from systemic conditions. Chief among these teachings were the uric acid diathesis, the faulty metabolism, and the auto-intoxication theories. For a time these theories were quite generally accepted, and the result was that they prevented the majority of dentists from attempting to give their patients the necessary surgical aid. As a consequence, many worthless remedies appeared as specifics for periodontal diseases.

At the present time investigators are almost unanimous in the opinion that periodontal diseases are the result of some pathogenic, microbic infection which begins in the gingival sulcus, and that there must first be a traumatic condition in this region to provide these organisms with the path of entry. There is still much difference of opinion, however, as to whether these traumatic conditions can be traced chiefly to local or to systemic causes. My own experience proves that even when systemic diseases are present, the periodontal tissues of the patient can be kept in a perfectly healthy condition by correct prophylactic care. Even if these tissues have become diseased and pyorrheal pockets have developed they can be rapidly and permanently cured by proper surgery as long as the teeth are vital.

I admit that certain systemic conditions such as mercurial salivation and lead poisoning produce an inflammatory condition of the gums. There is also much evidence to show that the precipitation of salivary calculus on the teeth is partly the result of metabolic disturbances. If it is permitted to accumulate it will irritate the gingivae and make them subject to infection. Thorough daily cleansing is sufficient, however, to prevent any injury from this source. It need scarcely be mentioned here that a lowered resistance of the body will affect the gingival tissues and make them more

easily infected, for this is equally true of other tissues.

Granting, then, that some of the systemic conditions mentioned sometimes do induce traumatism in the gingival tissues, yet in the great majority of cases, this condition is the result of purely local causes. Dental methods and teachings have contributed largely to these local causes. Many dentists have not been careful enough in their treatment of the supporting structures of the teeth. They have frequently injured the pericemental fibres, or broken down the septal tissues with ligatures, clamps, separators, and other devices, in their efforts to repair the crowns. Even rough margins of fillings, and the bands of artificial crowns were often left projecting into the gums. Although these mistakes are less frequent at the present time, yet harmful methods are still used by some prophylactic specialists. They use sticks and stiff, revolving brush-wheels to produce a polish on the crowns, which, to be of any value should extend underneath the gingivae to the attachment of the pericemental fibres. Then, as if the injuries they have inflicted were not sufficient, they instruct their patients to use dry, stiff, and frequently irregular-shaped brushes. I shall pass for your inspection one of these destructive devices. This particular one was designed by one of the leading pyorrhea specialists, and tremendous efforts are being made at present to induce dentists to advise its use. By testing the harshness of it with your fingers you will find that even the hands could not tolerate such a brush. The recent advice, however, that we should abandon the use of the tooth-brush is equally harmful. There is nothing which is more beneficial to healthy gums than lots of friction with a brush which has perfectly even, and very flexible bristles, especially if the stroke follows the same general direction as the food. That is, the upper teeth should be brushed upward and the lower teeth downward. I shall pass a brush of this description that you may compare it with the other, which is to be avoided.

PATHOGENIC MICRO-ORGANISMS WHICH MAY BE RESPONSIBLE FOR CAUSING PERIODONTAL DISEASES.

Microscopic examination of pyorrheal lesions shows that even in their incipient stages they contain several strains of pathogenic micro-organisms living symbiotically. This fact has led many investigators to study these organisms to determine, if possible, whether any of them could be shown to be the specific cause. Although several claims have been made that such an organism has been found, the fact remains that up to the present none of these claims have been substantiated. The most recent of these, and one which has been brought to the attention of the medical profession, is the claim that these lesions are caused by the protozoa, *endameba buccalis*. It has been known for some time that endamebae may be found in pyorrheal pockets but no special significance was attached to their presence until Barrett and Smith³ published the results of their investigations in a paper entitled: "The Protozoa of the

Mouth in Relation to Pyorrhea Alveolaris." This paper was read on July 1, 1914, at the annual meeting of the Pennsylvania State Dental Society. These men expressed the opinion that endamebae are the cause of pyorrheal lesions because they found these organisms in all of the forty-six cases they had then studied, and, because the appearance of the tissues improved when the endamebae were destroyed by the use of emetine hydrochloride. These findings were immediately announced throughout the civilized world through the medium of the Associated Press and the International Press Agency. The attention of the medical profession was directed to them in a more special way by an editorial which appeared in the New York Medical Journal, July 11th, 1914.

On September 14th, 1914, over two months after the scientific world knew about the work of Barrett and Smith, Bass and Johns⁴ laid claim to a similar discovery in a paper read before the Orleans Parish Medical Society. Although admitting that Koch's postulates had not been satisfied, they made the statement:⁵ "The specific cause of pyorrhea dentalis and alveolaris is endamebas." They also claimed that emetine hydrochloride will cure these diseases by destroying the endameba. These statements, although made at a time when they knew but little about the entire subject they essayed to present, have been thrust upon the medical profession quite universally, and have been commercialized successfully by the manufacturers of drugs.

After more than a year of additional study by many investigators we are forced to admit that very little is known about these protozoa which inhabit the mouth. We do not understand their life's cycle, or exact manner of reproduction, and are still uncertain about their toxicity and food supply. It would, therefore, be unscientific to say positively that they are or are not an etiological factor in periodontal diseases. But much evidence is accumulating to show that they are not the original invaders of the tissues.

Price⁶ in his investigations for the Research Commission of the National Dental Association, found that endamebae could not be discovered during the winter months in the mouths of many patients who were suffering with advanced pyorrheal conditions, but that they appeared in great numbers during the spring months in these same mouths, even after these had been put into a clean and healthy condition. This endamebic development, however, did not cause a recurrence of either the pyorrheal conditions or their systemic effects. From this it would seem that at least certain species of endamebae are merely secondary, and harmless invaders of the lesions. Price⁷ also found that the patients in whose mouths endamebae were found during the winter months, were using spring water instead of the regular city supply. We might conclude from this that these people got the endamebae from the spring water they were using, were it not for the fact that oral endamebae do not have contractile vacuoles like the free living amebas found in water. It is also difficult to explain why climatic conditions should

influence certain species of endamebae since the temperature of the mouth does not vary with the seasons of the year. Referring to these problems, Price⁸ says: "We find that the species predominating may vary with the location and the time of the year, in the same mouth under certain conditions."

A study of the food supply of oral endamebae will assist in determining whether or not they are the original invaders of the tissues. Bass and Johns⁹ state: "Their food is largely broken-down tissue and especially certain pus-cells."

Henrichi,¹⁰ reporting the work accomplished by the Minnesota Division of the National Dental Research Commission, states that the food of endamebae consists entirely of bacteria and pus cells. This would indicate that it is necessary for pus-producing organisms first to invade the tissues in order to supply the endameba with the proper kind of food.

Chivero¹¹ believes that endameba may even be beneficial to the tissues. Summing up the results of his careful investigations he says: "The endameba has not a pathogenic action; on the contrary, as it feeds on bacteria, it is most probably an aid to the auto-disinfection of the mouth."

It is possible, however, that endamebae may be injurious to the tissues by acting either as a chemical or mechanical irritant. Bass and Johns¹² in their endeavors to prove the pathogenicity of endamebae, claim that they increase the infection by entering the tissues and dragging the bacteria in with them. This claim was originally made by Prowazek¹³ regarding the endameba histolitica, but this does not seem plausible. The majority of investigators believe that oral endamebae do not enter the tissues. Henrichi¹⁴ in his report says: "We have repeatedly cut sections of the gums from cases of pyorrhea where amoebae were present in the pus, and searched carefully for amoebae in the tissues. In no instance have they been found, and we must conclude that they do not invade the tissues, but remain in the superficial pus."

Even if some species of oral endamebae are capable of entering the tissues the endameba buccalis, specially mentioned by Bass and Johns, would seem to have the least ability to do so. They are sluggish in action, and their short, blunt pseudopods, which are hyaline in character, give them but little power of movement even in a clear field. Another species, however, the endameba kartulisi, is very motile. It will move rapidly across the stage, and if it encounters some debris, the refractile character of its ectoplasm gives it sufficient strength to cast this aside and proceed on its journey.

Bass and Johns¹⁵ presented as their chief proof that endamebae are the cause of pyorrheal lesions, the claim which was originally made by Barrett and Smith¹⁶ namely, that the tissues improve in appearance when the endameba have been destroyed by the use of emetine hydrochloride. In making this assertion they overlooked the fact that emetine hydrochloride has a bactericidal, as well as endamebacid action, and that the improvement in

the tissues is probably due to the destruction of other micro-organisms. Referring to this action of emetine hydrochloride, Price¹⁷ says: "It is not established that its beneficial effects are, in part or whole, not due to its action on these other organisms rather than the endameba."

The extreme variations in the appearance of periodontal lesions, as well as the difference in the rapidity of their development, suggests very strongly that no one organism, or even group of organisms are always responsible for causing them. It is possible, however, that some one organism is the specific cause, and that the variations referred to are the result of others acting as secondary invaders. Some investigators think that the spirochaeta, treponema mucosum, discovered by Noguchi¹⁸ may be responsible for causing pyorrheal conditions because they are found in the deepest portions of the lesions, are mucine-forming and produce the odors which are characteristic of pyorrheal diseases. It is doubtful, however, if they can always be found in shallow pockets during the incipient stages of these diseases, as they require anaerobic conditions to permit their development.

Although many different species of micro-organisms, such as streptococci, staphylococci, fusiform bacilli, and spirochaeta, are found in these lesions, perhaps none appear more constantly than the various strains of streptococci; and there seems to be no good reason why they could not produce these lesions if traumatic conditions are present to provide them with the path of entry.

SYSTEMIC EFFECTS OF PERIODONTAL SEPTIC FOCI.

It has been recognized for some time that periodontal diseases exert a harmful influence on the general health. This was formerly thought to be due to the absorption, and ingestion of the toxic products developed within the septic lesions. The real danger from these lesions became apparent, however, when the discovery was made that many of the serious, chronic diseases occurring throughout the body are caused by pathogenic micro-organisms which are carried by the blood stream from these and similar septic foci. The danger from periodontal septic foci became even more apparent when it was found that some of the organisms they contain possess facultative cultural properties, and also a variable pathogenic specificity, the streptococcus-pneumococcus group alone appear to be capable of producing a wide range of systemic diseases. Rosenow¹⁹ has found that transmutation of this group readily occurs. By animal passage and cultural environment he has been able to change pneumococcus into streptococcus veridans, str. rheumaticus, str. hemolyticus, and str. mucosus. The conditions which bring about transmutation of these organisms appear to be such as variations in oxygen tension, salt concentration symbiosis and incavation. Periodontal septic foci, therefore, furnish exceptionally good conditions for producing such transmutation, and there is no other spot in the body from which they can more readily enter into the blood stream. It is difficult, however, to understand the various

factors which determine the elective localization of the bacteria after they enter the circulation, but evidence is accumulating to show that much of their pathogenic specificity may be acquired while they are developing within such foci as periodontal lesions.

Rosenow²⁰ as a result of his recent investigations, believes that the elective localization of bacteria may in part be due to the oxygen requirements they develop while within the original focus. If so, it is possible that the varying depths of pyorrheal pockets may force these organisms to live and develop under such different degrees of oxygen tension, even in the same mouth, that they acquire in this way some of the highly differentiated elective localization properties which they possess. This may explain why one strain of streptococcus veridans will attack the synovial membrane of a joint where there is but little blood supply, and consequently a low oxygen tension, while another strain will form a prolific vegetation on the endocardium and cardiac valves where they must live in a very high oxygen tension.

Rosenow's work²¹ also shows that the degree of virulence plays a large part in causing the elective localization of bacteria. It would seem, therefore, that periodontal septic foci may be more dangerous to the body than many of the secondary foci which result from them, because their location must permit them to constantly receive new strains from outside sources. These new strains must naturally possess very extreme and varied degrees of virulence.

Clinical experience has also done much to prove that periodontal septic foci are the cause of many of the diseases which occur throughout the body. It has been found that the diseases which were formerly thought to be the cause of periodontal lesions are greatly improved and usually cured by the complete obliteration of oral septic foci.

THE TREATMENT OF PERIODONTAL DISEASES.

The dangers, then, which arise from periodontal septic foci would bring an exceedingly serious problem before us, were it not for the fact that the method for preventing and curing these foci has been found. For over twelve years I have been able to secure a vital reattachment of the separated tissues to the cementum of living teeth wherever the form of the roots would permit of perfect surgery. This reattachment of the tissues rapidly and permanently cures the pyorrheal pockets. It must be emphatically stated, however, that periodontal diseases are not cured unless the pyorrheal pockets have been completely obliterated, and that this can only be accomplished by the aid of perfect surgery. Antiseptics and endamebacides should not be employed because they cannot cure these lesions, and if they are used as an aid to surgery they impair the tissues and interfere with rapid healing. The reunion of these tissues is a biological process and is therefore dependent upon the same conditions which govern the reunion of separated tissues in other parts of the body. That is, tissues to be united must have exposed, living

cells on each surface, and these surfaces must remain in undisturbed contact for sufficient time to permit the union to take place. Therefore, the separated tissues cannot possibly unite to the roots and obliterate the pyorrheal pockets unless all of the calculus is removed and in addition to this all of the involved cementum is scraped just enough to provide a surgically freshened, living surface. It is not possible, however, to always produce this freshened living surface where the narrow bifurcation of the roots make it difficult even to remove all of the calculus. Therefore such teeth may be relieved but not cured. It is also impossible to reunite the tissues to the roots of pulpless teeth, because the involved portions of cementum in these cases is dead, and living and dead tissues cannot unite.

Several writers apparently ignorant of these facts, have stated from time to time that they have found some specific agent which will cure pyorrheal lesions. The most recent of these claims are those put forth by Bass and Johns²² regarding emetine hydrochloride, and by White and Wright²³ who claim that they have cured one hundred per cent. of the cases they have treated with succinimid of mercury.

Bass and Johns²⁴ so completely ignored the need of surgery, that they attached but little importance even to the removal of calculus. Referring to the removal of calculus from the roots they say: "There is a deep-set opinion held by the dental profession that it is important to scale or scrape this off to facilitate healing. This might be true if there was any hope that the destroyed periodontal membrane would be regrown and again cover the root of the tooth where it formerly existed. We have not the slightest evidence, however, that such a thing can occur. Apparently, therefore, the only benefit that would result would be what results from cleanliness and removal of foreign material, which may in some instances be a source of irritation. However, if done properly, no harm should result."

Some of the leading dental writers who have undertaken to point out the errors in the teachings of Bass and Johns have made quite as serious mistakes themselves. They claim that the portion of cementum which has become involved in pyorrheal lesions is dead, and also that the pericementum, which becomes separated from it, is completely destroyed. For this reason they claim that neither emetine hydrochloride nor any other treatment can bring about a reunion of these tissues and obliterate the pockets. These mistaken teachings involve such important histological, physiological and pathological problems that they must be left to be considered in a subsequent paper. I will merely state at this time that cementum may receive nutrition from either the pericementum or the pulp, and, therefore, does not die as long as the pulp remains vital. It is not true that the separated portion of the pericementum is completely destroyed. When pathological conditions are permitted to continue the pericemental fibres become detached from the cementum and atrophic changes occur in them. In advanced cases a rup-

ture or even a series of ruptures may occur in the pericementum, but some of the fibres still remain and quickly reunite to the cementum if proper surgical assistance is given.

CONCLUSIONS.

1. Periodontal diseases are so common that we rarely find an adult person who has absolutely healthy gums. These diseases develop so insidiously, however, that their presence is usually not detected until they have reached an advanced stage.

2. Periodontal diseases apparently are the result of some pathogenic microbic infection which begins in the gingival sulcus; but these organisms require a traumatic condition to provide them with the path of entry. The traumatism is usually the result of purely local causes. Systemic conditions, however, may exert a slight contributory influence.

3. It has not yet been proven that any one organism is the specific cause of periodontal lesions; on the contrary, the appearance of the lesions suggests that they may be caused by different organisms.

4. Endamebae are usually found in periodontal lesions, but the majority of investigators believe that they are harmless, secondary invaders of the pockets.

5. Periodontal septic foci endanger the health of the body because they contain several strains of pathogenic organisms having highly differentiated elective localization properties, and the organisms can readily enter into the circulation from these foci.

6. Correct prophylactic care will always prevent periodontal diseases.

7. Periodontal diseases are not cured unless the pyorrheal pockets have been completely obliterated. It has been found that the separated tissues will form a vital reattachment to the roots of living teeth and obliterate these pockets if aided by proper surgery.

8. This reunion of the tissues cannot be brought about by antiseptic and endamebacidal agents, and if they are used as an aid to surgery they impair the tissues and prevent rapid healing.

Bibliography.

1. Hopewell-Smith, A.—Dental Cosmos, Sept., 1911, p. 990.
2. Talbot, Eugene S.—Dental Cosmos, Nov., 1905, p. 1311.
3. Barrett, M. T.; Smith, Allen J.—Dental Cosmos, Aug., 1914, p. 948.
4. Bass, C. C.; Johns, F. M.—New Orleans Medical and Surgical Journal, 1914, LXVII, p. 456.
5. Bass, C. C.; Johns, F. M.—The Journal A. M. A., Feb. 13, 1915, p. 553.
6. Price, Weston A.—The Journal of the National Dental Association, May, 1915, pp. 154-157.
7. Price, Weston A.—The Journal N. D. A., May, 1915, p. 156.
8. Price, Weston A.—The Journal N. D. A., May, 1915, p. 144.
9. Bass, C. C.; Johns, F. M.—Alveolodental Pyorrhea, p. 145.
10. Henrichi, Arthur T.—The Journal N. D. A., Nov. 1915, p. 337.
11. Chivero, Angelo—Dental Review, Dec., 1914, p. 1133.
12. Bass, C. C.; Johns, F. M.—Alveolodental Pyorrhea, p. 51.
13. Prowazek—(Reference) Calkins Protozoology, p. 299.
14. Henrichi, Arthur T.—The Journal N. D. A., Nov., 1915, p. 337.

15. Bass, C. C.; Johns, F. M.—The Journal A. M. A., Feb. 13, 1915, p. 554.
16. Barrett, M. T.; Smith, Allen J.—Dental Cosmos, Dec., 1914, p. 1345.
17. Price, Weston A.—The Journal N. D. A., May, 1915, p. 157.
18. Noguchi, Hideyo.—Journal Exper. Med., 1912, XVI, p. 194.
19. Rosenow, E. C.—The Journal of Infectious Diseases, Jan., 1914, p. 31.
20. Rosenow, E. C.—The Journal A. M. A., Nov. 13, 1915, pp. 1690-91.
21. Rosenow, E. C.—The Journal A. M. A., Nov. 13, 1915, pp. 1690-91.
22. Bass, C. C.; Johns, F. M.—Alveolodental Pyorrhea, p. 33.
23. White, P. G.; Wright, B. L.—Dental Cosmos, Sept., 1915, p. 1004.
25. Bass, C. C.; Johns, F. M.—Alveolodental Pyorrhea, pp. 140-141.

Discussion.

Dr. F. C. Pague: I appreciated Dr. Smith's paper very much indeed, for in his work he has tried to show you the result of instrumentation and faithful work, and that such work will cure pyorrhea. I might say, in connection with that, that in my own experience there are very few cases of pyorrhea that cannot be cured, and those exceptions are cases where probably one-half or two-thirds of the process supporting those roots is destroyed.

I might, if you will permit me, verify Dr. Smith's remarks regarding the statements of Drs. Bass and Johns. Most of you, I presume, during the meetings of the American Medical Association in San Francisco last June, had the pleasure of not only listening to their papers, but of seeing many of their slides. In my judgment, it is apparent that they rushed into print entirely too soon. Neither of them was a dentist. They were both young men with scientific experience, but nothing else. I had the pleasure of listening to a paper of Dr. Bass before the Alameda District Dental Society, and a more intelligent paper I have never heard read. I concluded that here was a man who had his writings not only at his finger tips, but at the tip of his tongue as well, with positive assurance as to the result of his findings. After finishing his paper, an opportunity was afforded for the discussion of it, and I asked Dr. Bass if with the use of emetin hydrochloride he could obtain a cure in pyorrhea without removing the irritants, and he said, "Well, I don't know that you could," and yet in his paper he had left the inference that such conditions could be cured by the introducing into the circulation of emetin hydrochloride without removing the irritants from the roots of the teeth.

In March or April of 1914, an eastern physician was on the Coast and was referred to me, as he expressed it, for relief from the bleeding of his gums. They not only bled when he brushed them, but also in eating, and often in the morning he would find blood upon the pillow. I made several appointments with him, kept two of them, and then was taken sick, and when I returned to my office there was not time to finish the work before the gentleman went East. Although a physician, his business is one that causes him to travel quite a good deal throughout the country, and in March or April of 1915, a year later, he was in Atlanta, and read in the American Medical Journal the published report of emetin hydrochloride by Drs. Bass and Johns. He went down to New Orleans and had a course of treatment. He had six injections in the arm at intervals of two days. The condition cleared up for three or four weeks. He was able to brush his teeth with hardly any sign of blood. But at the end of that time there was a recurrence. Dr. Bass provided him with emetin hydrochloride for other injections, and at the end of six weeks (he himself injected into his arm, I believe, at intervals of two days, six more ampoules) he was on his way to the Coast. At Los Angeles he went to a dentist because his

gums were then bleeding very badly, and the dentist referred him to me. He was here several weeks, and I went over every tooth in his mouth. In a letter from him eight months afterwards he said that all bleeding had stopped. The soreness in his teeth had disappeared. He was able to close them firmly and tightly, which he had not been able to do for several years.

I mention this because of Dr. Bass's assertion that emetin hydrochloride would cure these conditions, and here a man of the medical profession who believed in the representation of Dr. Bass, was so completely disappointed that he was discouraged.

Dr. C. F. Welty: *Pyorrhea alveolaris* is a name given to a pathological condition, for which until a short time ago, there was no known cause. From what Dr. Smith says, I can logically infer that he, at least, with a great many others are of a different opinion. My notion is also at variance with Dr. Smith. My source of reasoning comes to me from infections observed elsewhere. It is perfectly logical to assume that in the act of mastication of food, a certain amount of traumatism is produced which may or may not lead to infections. By the use of the tooth-brush, I am confident traumatism is produced that may or may not lead to infections. By the use of unsterilized instruments by dentists, I am certain abrasions are produced. One must bear in mind that with traumatism and abrasions in a field that carries infectious micro-organisms at all times there will be an occasional infection that at least starts the condition we call *pyorrhea alveolaris*. I am of the opinion that with a perfectly clean mouth, this condition will not present itself. Furthermore, that in a given case of *pyorrhea alveolaris* (within the curative stage) all sources of infection removed and with a new granulation surface about the tooth, your case will be cured with one thorough treatment, provided the tonsils and adenoids are removed and the nose and ears are free from pus. To substantiate this, I will say that pus can be pressed from the tonsils of 60 per cent. of the adult population and that a large percentage of the balance will have such definite pathology of the tonsil that it can be diagnosed by an accurate inspection. Such conditions of the tonsils must be admitted and when we add other pus foci from the nose and ear, you can readily understand why it is more probable than any theory that has yet been presented. I would take great pleasure in verifying this by operating 20 or 30 cases that are considered amenable to treatment by the dentist. I maintain that they will recover more rapidly and their possibility of reinfection is much farther removed than when they continually carried so much infection about with them at all times.

Dr. H. McNaught: I would like to ask if it is true that the tooth-brush does produce infection of the gums?

Dr. J. T. Watkins: Were the subject under discussion other than what it is I should hesitate to inject myself into a discussion at a meeting of the eye, ear, nose and throat section; but I do not know but perhaps the teeth and their ailments and the remote effects of those ailments are every bit as interesting to your orthopedic surgeon as they are to one who specializes in the eye for example.

Dr. Sydney Smith has shown us very graphically what may be done to relieve alveolar infections which involve living teeth; but I should like very much to learn from the doctor what is to be done when pus pockets appear about the roots of dead teeth.

I am constantly seeing joint infections presented by persons who have *pyorrhea* and a number of whose teeth are known to be dead. Usually it has been my custom to send such a patient to his dentist with the request that he get the patient's

mouth clean. I would like to have my ideas on this subject cleared up, so that I can send word that I want certain work done and rest assured in my own mind that if it is done properly at least a certain definite local result may be relied upon to follow—and possibly a remote one as well.

Let me illustrate from my own experience. Not long since I was called to see a lady of somewhat advanced years who was suffering from a painful knee. The condition had obtained with remissions and exacerbations for eight months. Treatment had given no relief. The knee presented the usual signs of a low grade infectious process; and upon inquiry the fact was brought out that she had long had *pyorrhea* for which she had had intermittent treatment.

I located one tooth where pus could be expressed from the gum. She told me the dentist said this tooth was dead. I said to pull it out; but she and the dentist wanted to go on treating it. However, I was so insistent about it that it was eventually extracted. The patient's knee got well almost immediately afterward.

What I want to know is could anything have been done which would have at once saved the tooth to my patient and assured the cure of the infection and the relief of my patient's knee affection? Or was I right in insisting upon having it pulled out?

Dr. Smith, closing discussion: Dr. Welty suggests that periodontal diseases may be caused by septic tonsillar crypts. It must be admitted that we find the same pathogenic organisms living in similar symbiotic relation in septic tonsillar crypts and in periodontal septic lesions. It is also true that the close anatomical relation of the gums and tonsils makes it very easy for the organisms to be transferred from one to the other. We must bear in mind, however, that it is not the mere presence of these organisms which causes periodontal lesions. In themselves they are harmless to the gingival tissues; they become dangerous only if a traumatism provides them with the path of entry. Moreover, these pathogenic organisms reach the gingival tissues constantly from outside sources, and additional germs from the tonsillar region would not make much difference. Diseased tonsils, then, do not cause periodontal lesions, and the removal of the tonsils cannot cure these lesions. This can be done only by proper local surgical treatment.

Dr. McNaught asks if a toothbrush might not cause gingival traumatism and carry pathogenic organisms into the tissues. I think that depends upon the health of the gingival tissues, the type of brush, and also how it is used. In the first place, diseased or injured gums should not be brushed at all. We would not brush injured or diseased tissues in other parts of the body, and gingival tissues should receive the same consideration. If they are diseased they should first be cured by giving them proper surgical assistance. After they are healed they may be strengthened by frequent and correct brushing just as the hands may be strengthened by daily labor.

Regarding the sterilization of the toothbrush. I do not know of any simple method of sterilization that can be used for the daily care of the brush; but I do not think it is as dangerous as some writers would lead us to believe, because it contains organisms from our own mouth which we are accustomed to, and for which we have acquired a certain degree of immunity. Even if it should contain new strains from other sources they would be harmless if the gums are healthy enough to stand brushing at all.

Replying to Dr. Watkins' question regarding the advisability of removing pulpless teeth. I believe that a large percentage of pulpless teeth have apical septic conditions which endanger the general health, and that such teeth must either be cured or

removed. These apical septic foci occasionally contain almost a pure strain of streptococcus veridans which have very low oxygen requirements and also a low degree of virulence. This gives them special elective properties for the joints and valves of the heart, but apparently they do not possess such a wide range of pathogenic specificity as some of the organisms which are found in pyorrheal pockets. At the present time many dentists believe they can cure apical septic foci by amputating the end of the roots. Personally I do not believe this entirely removes the danger, because the tissues cannot possibly grow to the dead portion of dentine which is thus exposed. They simply tighten around it. Therefore, unless such dentine can be perfectly and permanently sterilized by the use of some non-irritating agent it must still contain pathogenic organisms which are capable of entering into the circulation. The mere fact that the tissues tighten around the end of such roots does not prove in my judgment that the dentine is sterile, and that the encystment would form an impenetrable barrier to the bacteria. Some of the agents which have been used to sterilize the dentine exert a harmful influence on the pericemental tissues. They injure these tissues to such an extent that they become subject to infection by bacteria which may be carried to them by the blood stream. There are many pulpless teeth, however, that appear to have no apical complications, at least not of a character that the radiograph would show. These teeth should not be removed unless further investigations prove them to be dangerous, for it is a serious thing to remove a tooth that can be retained safely.

APOCODEIN—A NEW LAXATIVE WITH EXCEPTIONAL ADVANTAGES *

By WALTER C. ALVAREZ, M. D., San Francisco.

INTRODUCTION.

The more cases of constipation I see the greater is the number in which the cause seems to me to be of a nervous or mental nature. In scores of cases I have seen it come and go according as the patient's mind was agitated or at rest. This is not so surprising when, as usually happens, the X-ray shows no sign of abnormality in the tract; the remarkable thing is that the same observation can be made in people with definite lesions interfering with colonic action. I know people whose bowels are all matted together after pelvic peritonitis, and yet they have no constipation. Others with similar adhesions, operatively demonstrated, suffer most of the time from an obstinate form of constipation; yet they have had periods of relief lasting weeks together, when the bowel movements were perfectly normal. This occurred generally when they were on a vacation or otherwise mentally at peace. I have seen a man with obstruction so severe that he came near being operated upon, yet his bowels moved perfectly a few days after a tremendous strain let up.

Any thinking physician must wonder also at the ease with which certain cases of constipation can be "cured," sometimes for months or years. For instance, those of you who have radioscoped many patients can probably call to mind a number

of people whose bowels began to move normally the day they were X-rayed. A buzzing sound out of the darkness, a whiff of ozone and a reassuring prognosis must have done it all. Others are cured by a few static sparks, a little high frequency, or some intrarectal electricity. You may not all agree with me that, in this connection, these measures are purely vehicles for psychotherapy; but you will admit that constipation must at times be a psychic disease when one of our osteopathic brethren happens to cure a case by replacing a vertebra that was "two inches out of line." We know also of Christian Scientists avowedly cured after they have, like the pilgrims of old, hung up their pills and syringes in the temple.

The other day I asked a prominent radiologist if he had ever seen plates indicating an atonic constipation—one in which the colon seemed too weak and flabby to pass on its contents properly. "Not since I have been in business" was his prompt answer. He might have added that the flabby looking colons, full of gas and long sausage shaped masses, are to be found with *diarrhoea*. After watching the powerful contractions in the small colons of rabbits and cats (the animal is anesthetized and the abdomen opened under salt solution) I am convinced that we greatly underestimate the strength of the colonic wall in man. As Keith says, there is enough muscle there to form a mass as large as the biceps of a blacksmith's arm¹. It does not seem likely that such a muscle would ever become so weak that it couldn't pass onward small fecal masses. It might, however, be inhibited, just as the blacksmith's arm can be paralyzed reflexly by a slight injury to the surfaces in the elbow joint.

Constipation is almost universally associated with the spastic colon which, I believe, works not too little but too much, often pumping the feces backward, away from the rectum. The trouble might conceivably be due to a spreading to the lower colon of that surcharge of nervous energy which, in such people, often manifests itself in the tenseness of the voluntary muscles. These points have been discussed briefly in a recent paper². It is significant that the best laxative for some of these constipated and overwrought people is a small dose of bromural or adalin (pure hypnotics like veronal) three times a day.

THE NEED FOR BLOCKING THE NERVOUS PATHS TO THE DIGESTIVE TRACT.

It appears from all this that one of the most needed drugs today is one that will block or lessen the disturbing influences reaching the digestive tract. Before we can block the paths from the nervous system to the bowel we must know where they are. Unfortunately, in spite of much brilliant work by Pavloff, Cannon, Auer, Carlson and others, we still do not know enough of the exact mechanism of these reactions. There are a number of paths by which mental influences can reach the bowel. First may be mentioned the direct connections with the central nervous system. Above, there is the vagus, distributed

* Read before the meeting of the California State Medical Society, Fresno, April 19, 1916.

mainly to the stomach, but reaching in its influence to the lower ileum; below, there are the nerves arising in the sacral plexus and supplying the lower three-fourths of the colon. The latter may have most to do with the production of the spastic colon.

The splanchnics, in connection with the myenteric plexus, carry inhibitory impulses to the tract. Although our experience has emphasized the great importance of this path in animals, it is hard to say how much it has to do with nervous indigestion in man. Our stomachs may seem to be paralyzed after strong emotion but our intestines are not, as evidenced by the lively rumbling and sometimes the tendency to diarrhoea. A patient once suggested that he would be alright if life would only furnish him with a certain amount of excitement and worry every day; a little of it constipated him and too much gave him diarrhoea. What he wanted was a happy mean.

Recently Cannon has shown that most of the bodily disturbances seen with fear and anger can be due to an outpouring of epinephrin³. As this secretion is oxidized and removed rapidly from the circulation, it does not seem likely that it can play much of a role in the production of such a lasting condition as constipation. I have found in a number of people that intra-muscular injections of adrenalin large enough to produce very annoying circulatory symptoms do not stop the rhythmic sounds of the intestine as heard by a stethoscope. Moreover, even in markedly constipated people, these injections are sometimes followed by one or more large bowel movements.

Circulatory disturbances may also play a large part. Just as we turn pale or blush externally, it is possible that we may do so internally, and such changes in blood supply could markedly influence the activity of the bowel. They may also have much to do with the rapid production of gas, experienced by many people under mental strain. Not only may there be a decreased absorption of the gas normally formed, but it is very probable that there is an excretion of CO₂ back into the bowel from the blood⁴.

Some of you will sympathize with a prominent physiologist who said to me, "How I wish sometimes that I could cut my splanchnics and go ahead with my work in peace." Perhaps some day a drug will be found that will block the nervous impulses, and save us from the after effects of emotion. What a boon it would be if self-conscious girls could perform at recitals, and nervous women could discharge the cook, spank rebellious children, make important decisions or preside at the club without having to pay such a price in indigestion afterwards.

Atropin has been used quite extensively with the view of blocking these nervous influences. Although the experimental evidence is against the probability of medicinal doses having much influence on the bowel, I have seen some obstinate cases of constipation relieved by this drug alone. It can act not only on the vagus endings in the stomach, but on the sacral nerve endings in the colon. Another drug—nicotin—in large doses,

paralyzes the ganglia intercalated between the splanchnics and the intestine and stimulates the cells in Auerbach's plexus. The result in animals is increased peristalsis.

Many smokers seem to derive a soothing and laxative effect from their tobacco, but little is known of the actual workings of these smaller doses of nicotine. To be sure, a cigar often contains enough nicotine to kill two men, but the smoker absorbs only a part of it⁵. The great toxicity of nicotin, together with its bad effects on heart and arteries, make it too dangerous a drug to prescribe; besides, we can hardly ask the minister's wife or the president of the women's foreign missionary society to smoke an extra cigar after meals.

APOCODEIN.

It is well known that most of the opium derivatives have, besides the sedative effect on the nervous system, a stimulant effect on the bowel. To be sure, some cause constipation, but, as has been shown for morphin, this may be due to too much stimulation, resulting in localized spasms. Codein acts like a purge on animals. Looking over the literature on this series of drugs, it seemed to me that apocodein was the most promising one for my purposes. For those who have never heard of it, I will say that it is made from codein as apomorphin is made from morphin. Just as apomorphin has much less of the sedative action and much more of the emetic action of morphin, apocodein has lost most of the sedative action and has gained more of the laxative effect of codein. Besides, it has a pronounced nicotin-like effect, paralyzing the sympathetic nerve cells and blocking inhibitory influences to the bowel. It also improves the tone of the intestinal muscle and by vasodilation, improves its blood supply. This again favors increased peristalsis. Certainly it has the most laxative effect of all the opium derivatives.⁶

Discovered by Matthiesen and Wright in 1870,⁷ it was tried out on a few patients in England and in France.⁸ Some thought it would be a good expectorant. Others found that it was an excellent hypodermic purgative that could be given, for instance, to the violently insane. Since then, it has remained a laboratory drug, unknown to the profession, but used by physiologists when they wish to paralyze sympathetic ganglia.

Three years ago I obtained some of the drug and soon found that it worked very well with a dosage of from 1/15 to 1/10 of a grain. Ordinarily I have given it with atropin in the following prescription:

R Apocod. hydr. gr. 1/15 to 1/10
Atrop. sulf. gr. 1/200 to 1/150
Sacch. lactis gr. ii
Ft. caps. tales No. xv
Sig. One b.i.d. or t.i.d. p.c.

I seldom exceed the smaller dose of atropin as many of the people who need the apocodein are so sensitive to drugs that even gr. 1/150 makes them uncomfortable.

In suitable cases, such a capsule taken two or

three times a day will insure a normal, formed stool without any discomfort. In three years only three people, all of them very sensitive to drugs and to nervous influences, have had to complain of anything more than this mildly laxative effect. They were purged quite actively without griping or other discomfort.⁹ When the drug works well there is no need of increasing the dose. A number of people have taken it pretty steadily for three years and still get good results from gr. 1/15 twice a day. Many have remarked upon the ease with which they could taper off and discontinue its use. There is none of that fatigue and emptiness of the bowel which interferes so much with the resumption of normal activity after purgatives.

Although as an opium derivative the drug happens to come under the Harrison act, there is no danger of habit formation as apocodein gives none of that feeling of well-being and comfort that makes the chance user of morphin wish to repeat his experience. I can state positively that in the three years no patient has shown any tendency to habituation.

SOME SUGGESTIONS AS TO THE USE OF APOCODEIN.

It should be emphasized right here that apocodein is not a sure cure for constipation. We cannot expect it to work well when the trouble is due to binding adhesions, pelvic disease or some form of megacolon. Besides, it has failed in some of the cases that seemed eminently fitted for its use. Possibly larger doses would have worked, but I have never exceeded gr. 1/10 three times a day, for two reasons: one that I often had other cause to suspect that the case was not suitable; the other that, especially since the war began, the drug has been expensive (seventy-five cents a grain, dispensed). A greater experience with the medicine and a better knowledge of the mechanism of constipation may give us an explanation for these failures. In a few cases in which neither liquid petrolatum nor apocodein worked well enough separately, their combination brought about a most satisfactory action.

The relief of constipation would undoubtedly cure many cases of indigestion, but in order to really help these patients, the emptying of the bowel must be as nearly normal as possible. The thing to be avoided is the production of one big rush which will interfere with absorption and nutrition, and will leave the bowel fatigued, irritable and full of gas. Many of these people will go several days without satisfactory evacuations, and with increasing discomfort and indigestion. They then take a purgative which makes them feel weak and miserable for forty-eight hours or more. During this time they often go to the doctor complaining of "autointoxication" and flatulence. Then follow two or three days of comfort and the patient wishes he could always feel so well. The bowels fail to move, however, and the same cycle must be gone over again. What seems to be needed is a little extra pressure applied evenly and steadily from above to

reinforce the normal gastro-colic reflexes which are most active after meals.

This extra stimulus may be either *chemical* or *mechanical*. In turning away from the drastic purgatives of our fathers, it seems to me that we have gone to the opposite extreme, and have developed an unreasoning dread of chemical laxatives. Instead, it has become the fashion to fill up the bowel with indigestible substances such as fresh fruits, salads, green vegetables and bran. Although much good may come out of this in deterring people from taking strong purgatives, and in popularizing the use of paraffin oil and agar, a great deal of harm is also being done by the routine prescription of these rough diets. This indigestible material often does not relieve the constipation, and the patient only suffers the more from flatulence, distress and under-nutrition. This is particularly true of the enteroptotics and asthenics—people who seldom can stand much cellulose in their diet, and who must always be making an effort to keep up their nutrition.

I cannot see why we should not use *chemical* laxatives in many of these cases, but I think we must follow the practice of some of the older clinicians and give them, not in one large dose, as we so often do, but in small divided doses after meals. The good results obtained with apocodein may be due partly to its use in this way. There is none of that depression and flatulence experienced after ordinary purgation. In fact, apocodein has often proven useful in relieving flatulence, dependent as it probably often is upon disturbances in motility. If the current would always set evenly down the tract, there would be no gas.

There are yet other reasons why a rough diet should not be prescribed for many of the cases in which apocodein is indicated. I have shown in a recent paper that food goes down the bowel because the duodenum and jejunum pump faster, harder and more continuously than does the ileum.¹⁰ The force with which the bowel propels its contents appears to be graded downwards from the pylorus to the ileocecal valve. In health the tract may be likened to a sewer which has a good "drop" so that anything will go through it on time. (It must be emphasized here that I am comparing the force of gravity acting on the contents of the sewer with the *muscular forces* of the intestinal wall. Gravity has very little to do with the progress of material through the digestive tract, and I hope that no one will misunderstand me at this point. There are enough surgeons already who tinker at the bowel as if it were a coil of rigid tubing always held in one position.) If the upper end of the sewer be lowered or the lower end be raised, the "drop" will be lessened and there may even be some stretches in which the pipe runs uphill. Such a sewer will pass liquids without much trouble, but it will soon clog if paper, rags or other refuse be thrown in. In a similar way the gradient of forces in the digestive tract may be lessened either by a loss of tone in the stomach and duodenum (as in asthenics and en-

teroptotics); or by increased tone in the lower parts of the tube (as in chronic appendicitis, colitis, etc.). Our experience with the X-ray shows that under these circumstances, the current through the tract is slowed.

A similar slowing can be obtained in dogs by reversing short stretches of small intestine.¹¹ At autopsy, there is always found a ballooning of the bowel at the upper suture where the normal downward current and the reversed current in the loop conflict. The dogs can be kept in good health if great care be taken that they do not get hold of straw, bone knuckles and other indigestible materials. Apparently, liquids and mushy material can be forced against the current through the reversed loop, but all rough substances are held back so firmly at the upper suture that the animal dies of intestinal obstruction when enough rubbish has accumulated to block the passage.

I believe there are many people who have a similar tendency to reverse peristalsis in some parts of their intestine. I have in mind particularly those cases, all too frequent, in which the appendix has been removed, and yet there are symptoms of chronic appendicitis and the X-ray shows marked stasis in the lower ileum. Perhaps much as the dogs are kept alive, these people can also often be kept comfortable and in health on a smooth, cellulose-poor diet. Besides guarding against the introduction of food that will not go well against the current, we may, as has already been suggested, try to increase the downward pressure by giving divided doses of a mild laxative. Such treatment has often given me excellent results. I have already remarked elsewhere¹² that the relief that the so-called "bilious" get from a dose of calomel may be due to the driving of a normal current down the bowel again, overcoming those reverse waves that have been carrying more than the usual amount of bile back into the stomach, and which have been causing the acid regurgitation, the belching, the "dark-brown" taste and the coated tongue.¹³

The hypodermic use of apocodein to relieve severe post-operative vomiting deserves further trial. If such vomiting should be, as I believe it often is, a manifestation of reverse peristalsis throughout the tract, it might be stopped by restoring the normal downward waves. In the few cases in which the drug has been tried, the results have been very encouraging; in some so striking that it seemed as if we could say definitely that they were propter hoc and not only post hoc. Shortly after the injection, normal bowel movements took place, and the nausea and vomiting ceased.

Although the theories which have led me to use this drug may prove to be erroneous, and later pharmacologic studies may show that in medicinal doses its direct stimulant action on the bowel overshadows its effect on the splanchnics, nevertheless the properties of apocodein should always commend it to the profession. If others should find it as useful as I have done, it can then be manufactured in larger amounts at a much reduced price.¹⁴

Bibliography.

1. Keith: Brit. Jour. Surg., 1915, ii, 534.
2. Alvarez: Jour. A. M. A., 1915, lxx, 383.
3. Cannon: Amer. Jour. Med. Sci., 1909, cxxxvii, 480; Amer. Jour. Physiol., 1911, xxviii, 64; Bodily Changes in Pain, Hunger, Fear and Rage, 1915, Appleton, New York.
4. Schierbeck: Skand. Arch. f. Physiol., 1893-1894, v, 1-12; Woodyatt and Graham: Trans. Clin. Path. Soc. of Chicago, 1912, viii, 354.
5. Solmann: Textbook of Pharmacology, 1913, Phila., p. 262.
6. The best articles on Apocodein are by Dixon: Jour. Physiol., 1904, xxx, 97; Brit. Med. Jour., 1902, ii, 1247.
7. Matthieson and Wright: Proc. Roy. Soc., 1870, xvii, 460; xviii, p. 83.
8. Legg: St. Barth. Hosp. Rep. 1870, vi, 97, was the first to try the drug on man. He thought it had no effect in doses of from 1-3 grains. Murrell: Brit. Med. Jour., 1871, i, 452, found it to be a good expectorant in doses of gr. 1/5. He does not mention any effect on the bowel. Guinard: Mém. d. l. Soc. d. Biol., 1893, v, 558, 586, and Lyon Méd., 1893, lxxiii, 69, 145, used it as a hypodermic purgative. Toy: Sem. Méd., 1893, xv, 346, found it was laxative when given by mouth. Fröhner: Monatschr. f. prakt. Tierheilk., 1893, iv, 249, concluded that it was a good expectorant without the undesirable emetic effects of apomorphine. The latest clinical article is by Comembale, Semaine Méd., 1900, xx, 422, who confirms its laxative effects on man.
9. The earlier observers concluded that apocodein had no emetic action whatsoever. I have seen only one woman who complained of nausea after each dose of gr. 1/10. She probably had some idiosyncrasy to the drug.
10. Alvarez: Jour. A. M. A., 1915, lxx, 388.
11. Mall: Johns Hopk. Hosp. Rep., 1896, i, 101; Prutz & Ellinger: Arch. f. klin. Chir., 1902, lxxvi, 964.
12. Alvarez: Jour. A. M. A., 1915, lxx, 392.
13. Kast: Berl. klin. Wchnschr., 1906, xliii, 947.
14. For the guidance of those who may wish to get some, I will say that with the European supply cut off, the stock in America was soon exhausted. Drug stores do not carry it. Lengfeld's Pharmacy in San Francisco have some and expect soon to get more.

THE PATHOLOGICAL ANATOMY, SYMPTOMS AND DIAGNOSIS OF RENAL TUBERCULOSIS.*

By LEON JOSEPH ROTH, M. D., F. A. C. S., Los Angeles.

This subject, far from being new, is nevertheless not without interest considering the fact that the surgeon does not often see incipient cases, or at least cases in their early stages; and that a large proportion of the patients seen are already septic, or sufferers from secondary infections of the lower urinary or genital tracts. It is frequently many years from the debut of the renal infection to the development of sepsis and such symptoms as make diagnosis easy and prognosis very doubtful.

An early recognition simplifies conditions greatly, both as to the facility of operation and perfection of results; and in the patient, avoidance of complications, including bilateral infection and fatal termination.

During this lapse of time, what has happened to the patients? For what, and how, have they been treated?

Pathological Anatomy. It is assumed that the infecting bacilli are already installed in the kidney. Their origin and manner of entrance are not greatly essential to this description. The hæmatogenous route is unquestioned; the lymphatic probable but as yet inconclusive.

The process, then, of tubercule formation is in course of evolution; and the earliest lesions are in close relation to the capillary vessels, and more particularly to the glomeruli. The primitive surgical type is miliary, sub-chronic, unilateral and

*Read before the annual meeting of the California State Medical Society, Fresno, Cal., April 20th, 1916.

circumscribed to one or several areas in the cortex. (Specimen No. 1.)

These minute formations vary upward in size to a pin head or larger; are yellow or translucent in color, and sometimes difficult to detect, except in an exsanguinated kidney. They may also be found at distant portions of a kidney already frankly infected by later lesions. (Specimen No. 2.)

The nodular form is a progression, in which the lesions are of larger size, yellow white in color, and in their early stage of development are firm to the touch and surrounded by a limiting wall.

Later the nodules soften and liquefy, and the evolution of these soon or late produce increase in size. At a given time necrosis occurs with eventual rupture into the pelvis. Rupture through the capsule of the kidney is rare at this stage.

What was a "closed" tuberculosis has now become the "cavernous" form, or "ulcero-cavernous" to be more exact. (Specimen No. 3.)

The process of fusion and destruction thus forms a pyo- or hydronephrosis, or a combination of the two; and may continue to the extent of possible complete annihilation of all renal structure and eventuate into a polycystic formation.

This same destructive process directed externally results in peri-renal abscess formation or the creation of a fibro-fatty peri-nephritis. (Specimen No. 4.)

Apart from these are the tubercular nephrites due to actual continuity of inflammation and to toxic influences.

It is to be seen that once the tuberculosis becomes active, there is no regression. A scarred kidney may be found post-mortem, but the scars are always associated with progressive destruction elsewhere in the gland. A spontaneously healed renal tuberculosis is a rarity. An anatomical amputation caused by obliteration of the ureter, and quiescence of glandular pathology, is not unknown.

Age Statistics. Renal tuberculosis is rare during infancy and old age; it usually attacks those between the ages of 15 and 40, and it is a curious fact that the carriers of tubercular kidneys are, for the most part, and except in the later stages, persons of exceptionally robust appearance.

Statistics prove that both kidneys are affected in equal proportion and that the infection is practically always unilateral at the onset.

The percentage of ultimate development of bilaterality varies from 50 to 85%, depending upon whether the statistics are taken from the clinics or the post-mortem tables. These figures concern the surgical tuberculosis only, the kidneys being affected simultaneously in the acute miliary form. This latter is essentially medical and will not be further considered.

Symptoms. Renal tuberculosis in its early stage manifests itself by vesical and urinary symptoms, by precocious hæmaturia and frequently by albuminuria.

The most important vesical symptom being frequency of urination, with or without a premonitory polyuria. The frequency is more noticeable during

the night than during the day. There is attendant pain, slight at first, but increasing with the progression of the disease. There may be extreme frequency and no bladder involvement; or with bladder involvement there may be a practically constant desire to urinate, particularly if the capacity of the bladder is becoming obliterated. The pain is practically in direct proportion to the pathological conditions. At the beginning, the frequency is due to a reno-vesical reflex, and the night urine is increased, constituting "the nocturnal pollakiuria" of Bazy. With these vesical symptoms and the now troubled urine, a few drops of blood may appear at the termination of miction. To the uninitiated this is a cystitis pure and simple; a treatment consisting of antiseptic irrigations with or without a catheter is instituted, the vesical neck and prostatic urethra are irritated and congested, the bladder may now become infected if it has not previously been, and thus in the male, the genital tract is exposed to contamination.

In young subjects incontinence of urine occasionally occurs during the day, but is most frequent at night, and this, associated with pyuria, is a symptom of major importance.

Polyuria is common and precocious, and may constitute the only initial symptom of renal phymatosis. It is met with even before the first painful vesical manifestations. The quantity of daily urine may approximate 2000 c.c. and is induced by a coincident nephritis or toxic irritation.

Pain. This symptom is not constant and may vary in certain cases from a complete absence, or only reflex sensation, to a condition of continual suffering. In character, it may be only a sense of uneasiness or it may reach the severity of a renal colic. This is due to pelvic retention and distension, with radiations reflexly to the other kidney or elsewhere, or most commonly down the course of the ureter to the inner part of the thigh, the testes, glans or labia. Reflex pains are diagnostically troublesome, and include the reno-renal, reno-vesical, uretero-vesical and others. Likewise confusing are the "painful areas," the importance of which are in inverse proportion to that attributed to them by their discoverers.

Hematuria. This is frequently an initial symptom, and one of the most important and constant. It may, for the sake of comparison, be likened to hemoptysis as a premonitory sign. Renal hemorrhage may vary from the intermittent and decidedly macroscopic to a more or less continuous and microscopic variety. This latter is a special characteristic, the urine remaining apparently clear. In some cases numerous examinations have failed entirely to demonstrate any red blood corpuscles. In character it may be total, partial or terminal; and when it is the latter it may simulate simple vesical or prostatic urethral bleeding. Occasionally it dominates all other symptoms and be so profuse and continuous as to compromise the patient's life.

The hematuria is not quieted by rest or the dorsal position, or provoked by exercise; thus being similar to the hemorrhage of a cancerous kidney, and differing decidedly from one containing calculi. The origin is either congestive, and due

to increased vascularity of the parenchyma surrounding a neo-formation, or frank, such as is caused by an ulcerated surface or papilla, or rupture of a contained blood vessel.

Objective Symptoms. These are not always of great value, as it is usually late in the disease that a tubercular kidney increases in size. The palpable kidneys, that is the pathological ones, may not be any larger than a normal one that has undergone a compensatory hypertrophy. On the other hand a retro-evolution from a practically normal sized kidney to its obliteration may occur without the kidney ever having been palpable. These facts do not always hold where the patient has lost much weight and is frankly tubercular.

Urinary Diagnosis. The urine contains pus microscopically, then macroscopically, the quantity depending upon the extent of the pathological process, and varies in amount from a very slight total haziness to a complete turbidity. The color of the urine is pale and the comparatively small amount of pus does not settle. As the quantity of pus increases a decided deposit forms, but the supernatant fluid retains the same character as the first variety. This is a characteristic of renal tuberculosis. The same amount of pus may be found in other renal diseases, but the urine will clear, except if a bacteriuria exist. This increased amount of hazy urine has been denominated by Guyon, the "troubled polyuria."

The French school lays great stress on the diagnostic importance of the aseptic pyuria, that is a urine containing pus, that does not clear upon standing, and that contains no micro-organisms. This does not exclude the fact that tubercle bacilli may be found in a bacterial urine.

The urine may contain casts, depending upon a concomitant nephritis. The total amount of solids is decreased, particularly urea and the chlorides.

Albuminuria may be noted before the appearance of pus and blood. This is accounted for by the toxic condition provoked by the bacilli, and is supposed to indicate a toxic nephritis. Albumin has been found in the perfectly limpid urine coming from a presumed healthy kidney after its fellow had been removed. It always will be found in urine containing appreciable blood and differentiated on this account. Otherwise the presence of albumin is not essential in diagnosis, though it will be found, in a large majority of cases, if frequent examinations are made.

It goes without saying that a history of the patient and the patient's antecedents has been obtained. A general examination is a matter of routine; and probably the most essential aid is gotten from the microscope. Both Caspar and Røvsing maintain that the bacilli of Koch can be found in over 80% of the cases of renal tuberculosis. This leaves room for argument considering the figures of other authors who claim 20% a high estimate.

The possible confusion with the smegma bacilli must not be forgotten, and care must be exercised in the collection of the urine and a differentiation made by appropriate methods of staining.

The collection of the urine must be preceded

by a careful cleansing of the glans, meatus, etc., and the urethra irrigated with a suitable antiseptic solution. Several methods have been suggested for procuring the specimen—the simplest, however, is to have the patient urinate in several sterile sedimenting glasses, and use the middle or last portion for the examination. The same may be done after passage of a catheter. If ureteral catheterization is practiced, the ordinary precautions suffice. It appears as a rather obscure possibility to convey the smegma bacilli into the bladder upon the end of the cystoscope, and from there into the ureter and kidney upon the catheter, and to again find them escaping exteriorly through the latter.

A point in diagnosis which has been to a certain degree maintained in the past, is that the tubercle bacilli were usually found in small numbers, and the smegma bacilli in large. This is probably incorrect, as the number of micro-organisms found depends upon the activity of the focus expelling them, and the chance of happening upon a large collection.

It is preferable to have a fresh specimen for microscopical examination in order to avoid crystals and chemical or bacterial changes. Should crystals be present, suitable means should be used for their dispersion. A fairly large specimen is advisable, at least 100 c. c. from the bladder, but it is oftentimes necessary to work with lesser quantities, especially those taken directly from the kidneys. The entire amount should be centrifuged at a high speed, say 3000 revolutions or more to the minute, and each tubeful for from 15 to 30 minutes. The smears should be heavy and fixed to the slide by heat only.

The smear is stained with carbol fuchsin, allowing to steam for about five minutes. Instead of methylene blue, equal parts of Esbach's picric acid solution and 95% alcohol is used as a counter stain.

The decolorization with 5% hydrochloric acid in alcohol is followed by absolute alcohol. It is now believed that the smegma bacilli are not fast to absolute alcohol, consequently any bacilli found on the slide are tubercle bacilli. The counter stain gives a faint yellowish background and shows only the pus, epithelium and general debris in yellow, and the bacilli distinctly red. The main advantages of this counter stain are that much thicker smears may be utilized, and search is simplified.

It is incumbent in passing to mention the Pappenheim stain for the color differentiation of the tubercle and smegma bacilli, and Antiformin, a chlorinated lime and caustic soda mixture used as a pus solvent. At present neither is used in our examinations.

For inoculation, the specimen undergoes the same technique to complete sedimentation. The entire quantity of sediment is diluted up to two c.c. with sterile salt solution, and one c.c. each is injected intra-peritoneally into two guinea pigs. These are observed for about six weeks, provided they do not previously succumb, or a tubercular development is not apparent before this time. A shorter period than six weeks is ordinarily in-

sufficient. A period of three weeks, as occasionally advised, has always given us negative results.

The involvement is most frequently in the omental glands, the spleen, mesenteric glands and the liver, in the order named. These tissues should be carefully examined because inoculation is usually done in cases where only a few, or even no tubercle bacilli are found in the urine.

The post inoculation lesions may be very small, and may be overlooked. When they are located, smears are prepared according to the technique previously described. In the event the bacilli are not found by this method, a histo-pathological examination will be necessary.

The use of tuberculin has been advocated, but the results are uniformly fallacious, and the evidence not specific for any individual structure.

Cystoscopic Diagnosis. The use of the cystoscope and ureteral catheter in diagnosis is too well known to require lengthy description. Among other vesical and uretero-vesical findings may be mentioned the rarer tubercle formations, bullous edema and a vegetative process of the mucous membrane, which simulates villous or papillomatous growths so closely as to possibly cause some confusion.

Tuberculous ulcers of the bladder rarely perforate, and seldom cause much hæmorrhage.

Röntgen Ray Diagnosis. In the event of total absence of clinical, laboratory or cystoscopic evidence, information obtained from radiography or pyelography may be of extreme value. No one has had opportunity for greater observation than Braasch of the Mayo Clinic, who in brief, states "that certain deformities of the pelvic outline are characteristic, or peculiar to renal tuberculosis. In early stages, evidence of inflammatory processes in the outline of the pelvis may be so slight as to be unrecognized. When pelvic deformity becomes apparent, it may closely simulate that of pyelonephritis and occasionally it may be impossible to differentiate. In tuberculosis, pelvic deformity predominates in the outline of the calyces. The true pelvis is usually but moderately enlarged, unless ureteral stricture should cause a considerable degree of a mechanical obstruction or pyonephrosis be present."

The calyces appear irregularly dilated, with uneven borders, particularly at the apices, which may appear as if detached from the pelvis. When the process largely involves the pelvis and peri-pelvic areas, the usual regularity of the pelvic outline is lost and in its stead will be found a diffuse, irregular outline, moth-eaten in appearance.

The first evidence of cortical necrosis will, as a rule, be visible at or just beyond the end of the calyces. As the inflammatory process extends, the necrotic areas become larger and may cause irregular shadows adjacent to the pelvic outline or appear as irregular areas scattered in various parts of the cortex. Occasionally the outline of the necrotic area is apparently detached from the pelvis or connected with it by a narrow isthmus."

Kidney shadows in good radiographs are not difficult of detection, especially in thin persons, and renal malpositions, irregularities and enlargements

are usually perceptible. Barring the possible presence of intestinal gases, calculi, calcified glands, phleboliths, an indurated gall bladder or gall stones, certain shadows in the substance of a tuberculous kidney may be produced by caseification, calcification, cavernous incrustation or a transformation resembling mastic. These are not unusual post-operative verifications, and while not very frequently seen, do, however, lend assistance in obscure cases.

Usual Diagnosis. Of occasional occurrence are those chronic cases with inflamed and rigid bladders in which any exploration is frustrated by pain, small capacity, hæmorrhage, stricture, mucous membrane exfoliation or impossibility of clearing the field of pus and debris. The diagnosis is unquestioned. The subjective and objective symptoms either do or do not indicate whether one or both sides are affected and there are no certain means of determining the integrity or functional value of a possible sound kidney. What is there to be done?

Catheterization through a cystotomy wound has been practised; its difficulty can readily be imagined.

In a crude manner, an indigo-carmin injection will give a time test indicating the rapidity of excretion; as also will phthalein, plus with the latter, a percentage test of total excretion, which if high enough may lead one to suppose that functional value somewhere remains. Other familiar tests may be supplemented. It is, of course, understood that the urine is obtained from the bladder, and preferably through a retained catheter.

By taking advantage of minimal evidence enough information may be gotten to permit exploration in a poor operative risk, with results that, while not always salutary, may be productive of great benefit, temporarily at least.

Cases with pulmonary complication, unless this is absolutely latent, should be left alone.

THE HISTORY IN GROUP STUDY.

(A Summary of One Hundred Case Histories.) *

By J. MARION READ, M. D., San Francisco.

This discussion will be confined to a study of one hundred case histories taken from the records of an organization for group study at St. Luke's Hospital. Throughout the process of differential diagnosis, this organization, by its system, aims at the control of dangerous omissions during the taking of clinical histories and the making of physical and laboratory examinations.

Organization: The omissions in physical examination are largely ruled out by the separate and independent examinations of ten specialists who record their findings on outlines. The shortcomings of the laboratory are corrected by having the pathologist meet daily with the clinical team in the discussion of cases. Thus he is able to see the necessity of repeating or extending his work. The ordinary method of history taking was found inadequate for this system of study and consequently a uniform outline was adopted. The information contained in these uniform records

* Read before San Francisco County Medical Society, April, 1916.

has lent itself easily to tabulation and statistical study. In this series of one hundred cases, the past history is of particular interest, the outstanding feature which distinguishes them being their marked chronicity. The uniform history outline, however, covers only the past history of the patient. No attempt is made to get a uniform history of the present illness nor tabulate this information which the patient is allowed to give in his own words.

Method of Study: The *modus operandi* of arriving at the diagnostic value of a history under this system will be of interest: The history is taken before any laboratory or physical examinations are made, and at its conclusion the primal impression of the diagnosis is written. In some cases, several impressions are recorded. This is checked up against the final diagnosis which is reached after all the clinicians make their examinations and the case is thoroughly discussed in meeting. In this way, the personal equation and tendency to uphold the first impression is entirely eliminated.

The clinical histories, like all the other records, are tabulated in groups of fifty. These clinical facts are summed up in much the same manner that commercial accounts are kept, the items here being symptoms rather than dollars. It was one of these units from the men's and one from the women's records which constitute the one hundred histories under discussion.

Complaint: In order to give an idea of the usefulness of this method of study and system of tabulation, some results of the work will be given: If it were necessary to select from the history one single item of greatest value in pointing to a diagnosis that item would be the complaint. In some cases, however, there is no apparent relation between the complaint and the disease. This point was illustrated by one patient whose presenting symptom was gas on the stomach, but the disease from which he suffered, was found at autopsy to be generalized miliary tuberculosis. These patients presented a total of 208 complaints so that there was an average of over two each. There were, however, only eighty-four different complaints. A few of these in their order of greatest frequency are shown in Table No. I.

TABLE I.

<i>Complaint</i>	<i>Frequency of Occurrence</i>
Vomiting	13 times
Headache	12 "
Epigastric pain.....	12 "
Cough	11 "
Nervousness	10 "
General weakness	8 "
Nausea	8 "
Dizziness	5 "
Anorexia	5 "

Age: Regarding the ages of the patients whose records constitute this series, it is interesting to note that although they belong to the class known to the profession as "Old chronics," still they are rather young in years. The average age of the

women was a little less than 35 years. The fifty men averaged almost 41 years. Their relative youth and the long duration of the present illness, which averaged nineteen and one-half months, marks these patients off in a class worthy of the most thorough study.

Family History: The family history is taken with some detail and yields several points of general interest. One of these is the frequent recurrence of certain causes given for the parents' death. In a group of 67 cases, the cause was cancer in 16.4%; diseases of the heart and blood vessels in 16.4%; tuberculosis in 13.4%, and pneumonia in 12%. It may be of some value to know that the average age of the parents at death in 94 instances was only 58½ years. Although no conclusions could be drawn from so few figures, still they seem to suggest that these patients may belong to families of lower vitality and resistance.

In a carefully checked up system such as this, it is apt to be found that some points of time-honored importance and helpfulness in diagnosis are in reality of questionable value. This fact proves true in regard to the family history. This series seems to indicate that the so-called familial diseases are negligible with the possible exception of pulmonary tuberculosis in which there was also a contact history in most cases.

Operations: A point in the histories which directly evinces the chronicity and obstinacy of the ailments is the large percentage of the patients who have undergone operations. Most of these patients had been the rounds and naturally visited a few surgeons. Many of them, in fact, had even been under the tender care of osteopaths and Christian Science practitioners. The surgeons left their marks upon nearly half of the women, twenty-one having been operated upon, eleven of whom could boast of major operations. Five of these eleven had been upon the table more than once, and two of these five had undergone two major operations. The men had been treated more conservatively. Only fifteen of them had been under the knife, seven of them for major operations. In every case the men regarded one operation as sufficient. These one hundred patients were the subjects of forty-four operations, which is a higher ratio than would be found in any one hundred patients chosen at random. And the striking fact about this matter is that they are still suffering from the ailments which many of these operations were intended to cure.

TABLE II.

<i>Operations</i>	<i>Women</i>	<i>Men</i>	<i>Total</i>
Major	13	7	20
Minor	16	8	24
	—	—	—
Total	29	15	44

Respiratory System: It would be folly on the clinician's part, as well as gross injustice to the patient, to venture a diagnosis of pulmonary tuberculosis without attempting at least, to determine the presence of changes in the chest either by clinical or X-ray examinations. But the figures obtained in this series show that a correct diag-

nosis can be made in a majority of the cases from the history alone. In nine out of the fifteen cases diagnosed as pulmonary tuberculosis, the impression had been gained from the history. Cough and night sweats were or had been symptoms in eight and three of the cases respectively. The frequent recurrence of other infections of the respiratory tract such as coryza, rhinitis, catarrh, bronchitis, pleurisy and even asthma were repeatedly of assistance in directing search along lines which revealed a tuberculous condition. It is evident that the more familiar a clinician is with the symptoms produced by a given pathological lesion the more detailed will his questioning be and the better able will he be to detect the condition from the history alone; therefore, it is not unreasonable to presume that the history is the most important factor in arriving at a diagnosis of early tuberculous lesions in the lungs.

Nycturia: The frequent occurrence of nycturia in the urinary history was notable. Regarding nycturia in conjunction with other urinary and circulatory symptoms it was frequently possible to make a diagnosis of arteriorenal disease which was later substantiated by the laboratory blood pressure and other clinical findings. This symptom was present in 34% of the cases, equally divided between the sexes.

The general idea of the prevalence of nycturia in elderly people is substantiated by our data which show it to be present in all but three patients over 50 years of age.

Pregnancies: A consideration of the pregnancies in the women's series offers some interesting data. Thirty of the women patients, or 60%, provided the sixty-five pregnancies which make up these data. The outcome of these pregnancies is given in the accompanying table:

TABLE III.

	Number
Children born alive.....	36
Children still living.....	31
Abortions, induced.....	17
Abortions, spontaneous.....	8
Stillbirths.....	3
Ectopic pregnancy.....	1
Total.....	65

Number of Diagnoses: Before giving the final figures on the number of cases diagnosed from the histories, it will be necessary to state that one or more secondary diagnoses were made on all except ten of the cases. After the examinations which these patients were subjected to, it was generally found that there was more than one pathological condition present. The primary diagnosis was made to explain the complaint, or presenting symptoms, and the secondary diagnoses covered the other findings. There was an average of 2.6 secondary diagnoses on the one hundred cases. The impression from the history corresponded to the final primary diagnosis more frequently than it did to the secondary diagnosis. Table IV shows the number of times the impression from the history agreed with the final diagnosis.

TABLE IV.

	With Primary Diagnosis	With Secondary Diagnosis
Agreement		
Complete.....	40%	7%
Partial.....	13%	34%
No.....	44%	50%
No diagnoses made.....	3%	9%
Total.....	100%	100%

The diseases which the histories were most valuable in disclosing, covered a wide range. Out of the fifty-nine different primary diagnoses, 23 of these had been very strongly suggested by the history. Table No. V shows the conditions whose symptomatology is sufficiently clear that one gets the correct impression repeatedly from the history alone:

TABLE V.

Interlobar empyema.....	2 out of 2 times it occurred
Endocarditis.....	2 out of 2 times it occurred
Pulmonary tuberculosis.....	9 out of 15 times it occurred
Syphilis.....	3 out of 6 times it occurred
Hepatic cirrhosis.....	2 out of 5 times it occurred
Goitre.....	2 out of 5 times it occurred

In a general medical practice including acute and chronic cases, the history is the means of diagnosis in perhaps a higher per cent. of cases. This was even more true before the time of refined and numerous laboratory examinations. Even now the practitioner limited in laboratory facilities and skill at physical examinations relies almost entirely upon his history. This time-honored place which the history has had in diagnosis is still maintained in spite of the additional aids at our command. But the history in order to hold its place should be brought to the same point of perfection and detail as the laboratory and physical examination.

Conclusions: In conclusion, it should be stated that the slight scientific value possessed by so few statistics is thoroughly realized. They have been presented at this time, however, not because of their intrinsic value but in order to show how much clinical knowledge could be readily obtained from such records. The complete method of Group Study as employed by the Diagnostic Section of St. Luke's Hospital Clinical Club is as yet unpublished. But its feasibility is so great that at once it becomes quite evident how its adoption by other hospitals would yield enough statistical material in a very short time to give a composite picture of disease in this community.

**PATRONIZE THOSE
WHO PATRONIZE YOUR
JOURNAL**

RETRODISPLACEMENTS OF THE UTERUS, WITH ESPECIAL REFERENCE TO THEIR CAUSATION AND A NEW METHOD OF TREATMENT.*

By J. C. NEEL, M. D., San Francisco.

Retrodisplacements of the uterus were probably first spoken of about the middle of the eighteenth century. While the ancients recognized prolapse, other displacements were included in the imaginary wanderings of the uterus to the various parts of the body. During the eighteenth century, when the care of labor cases began to pass from the midwife proper to the trained male obstetrician, the great danger associated with pregnancy in the retroverted uterus was clearly recognized. In 1770, William Hunter described retroversion of the uterus and four years later reported a case associated with pregnancy. During the first half of the nineteenth century, retrodisplacements were generally recognized and many ingenious mechanical devices were made to correct this deformity. Many of the pessaries employed during this period were a little less than instruments of torture, yet they were widely used until the beginning of the present operative period.

The normal location of the uterus is an ante-position whose plane is almost perpendicular to the longitudinal plane of the body. Its posterior walls are in constant apposition to the small bowel which normally extends into the cul-de-sac of Douglas. The mechanism by which the uterus is normally poised in this position must necessarily be a very complex one, owing to the pressure exerted upon it by the surrounding viscera, and at the same time to provide for the physiological processes incident to child-bearing.

Before attempting to correct any malposition one should have a clear understanding as to which part of this mechanism has been disturbed and before one can have such an understanding a concise knowledge of the various ligaments is absolutely essential. Laterally the fundus is invested with the broad ligaments which include the round ligaments, vessels, connective tissue and nerves within its folds. Their action is beautifully demonstrated in conservative pelvic operations requiring their incision; as, for example, the removal of both tubes. When the broad ligaments are cut free from the fundus, the uterus immediately assumes a reclining position on the rectum, even though the round ligaments have not been disturbed. The round ligaments have been a stumbling block to most gynecologists who consider them the true supporting structure of the uterus. Their muscular structure precludes the possibility of their action as a constant support, for nowhere in the animal organism is a muscle called upon to do continuous duty. Furthermore, when the abdomen is opened with the uterus in normal position the round ligaments are never found on tension but appear as lax cords and usually enter the internal inguinal ring at a point posterior to their attachment to the fundus of the uterus. Their chief function, therefore, seems to be demonstrated

by their hypertrophy during pregnancy, when they act as stays to poise the enlarged uterus in the abdominal cavity. On the other hand, their atrophy during long-standing retrodisplacements would seem to indicate a similar action in non-pregnant conditions.

Volumes have been written regarding retrodisplacements of the fundus while practically nothing has been said about displacements of the cervix, which constitutes an important step in the production of malpositions in a large percentage of cases. For various reasons, the utero-sacral ligaments have received insufficient attention. In the first place, their anatomical relations have been a bugbear to many surgeons. Although they are the chief structures holding the cervix high in the vaginal vault, most operators have depended entirely upon one method or another of suspending the fundus, drawing the cervix into its normal position. The utero-vesical ligament is a very elastic structure, capable of wide variations, and probably contributes little to the support of the uterus. The restoration of a torn perineum should always be attended to since it contributes chiefly to the support of the cervix and thus aids in maintaining the normal position of the uterus.

There are three main types of retrodisplacements; namely, retroposition, retroflexion and reclining uteri. Retroposition is the most common type, usually due to errors of omission and commission of the poorly trained obstetrician. The sequence of events in such cases is a downward displacement of the cervix and although the fundus may retain its normal relation to the cervix, the constant pressure upon its normal supports causes the entire uterus to become prolapsed on the rectum. In true retroversions, the cervix maintains its normal position but the fundus is bent backwards to form an acute angle with it. This type is usually found in nullipara and may be due to improper development, to sudden increase of intra-abdominal pressure, brought about by active exertion or by pelvic adhesions. The reclining uterus is a condition not usually spoken of in gynecological text-books but not infrequently occurs in young women and frequently causes the most obstinate type of dysmenorrhea. In such conditions, the cervix is displaced downwards, and although the fundus maintains an ante-position, there is an acute angle formed with the cervix and the entire uterus together with the ovaries assumes a reclining position in the cul-de-sac of Douglas. Under such conditions, the pelvic blood supply is disturbed, the ovaries become enlarged and tender and a definite obstruction to the drainage of the uterus results. During the past year, I operated upon several such cases, and by shortening the utero-sacral ligaments, supported the ovaries, secured free drainage of the uterus and immediately relieved the very severe symptoms of dysmenorrhoea.

The fertility of the surgical imagination is well demonstrated by the various operations that have already been published for the suspension of the uterus. As Clark has recently stated, the "57 variety" mark has certainly been out-numbered.

* Read before the San Francisco County Medical Society, October 19, 1915.

This, however, is sufficient evidence that so far the ideal operation has not been included. It is not the object of this paper to criticize the various methods already proposed for, undoubtedly, good results have been attained by various procedures.

The following types of operation have been fairly successful: (1) The Kelly suspension, in which the uterus was sutured to the anterior parietal peritoneum. This operation was first done by Dr. Kelly in 1885 and simultaneously published by Olshausen in 1887. The disadvantage of this operation is the difficult labors which it occasionally produced so that it is no longer followed as a routine procedure. (2) The Alexander operation, in which the round ligaments are shortened at the inguinal ring on either side. This operation was first described in 1882 by Alexander⁴ of Liverpool. Although the technique has been variously modified it has never become popular here, chiefly because it necessitates two incisions and does not permit treatment of coincident intra-pelvic and intra-abdominal lesions. (3) The Gilliam operation, in which the round ligaments are drawn through the peritoneum on either side near the internal inguinal ring, carried either between or through the muscles of the abdominal wall and sutured to the fascia of the recti muscles. This operation will give good support to the uterus but it occasionally becomes adherent to the abdominal scar and in a large series of cases a good percentage complained of severe pain at the site of suture of the round ligaments. This pain would persist for a period of several days to many weeks and became so troublesome that the operation was abandoned about two years ago. (4) The Webster-Baldy operation, in which the broad ligament is punctured beneath the utero-ovarian ligaments and the round ligaments are drawn through and sutured to the posterior surface of the uterus. There are two main objections to this operation. In the first place, raw surfaces are left from the sutures where they come into close contact with the bowel and thus furnish the necessary conditions for adhesions. In the second place, the blood supply of the ovaries is disturbed, they become swollen, and sometimes cause severe post-operative pain. (5) The Coffey operation, which plicates the broad ligaments over the anterior surface of the fundus.

The ideal operation must be one which will poise the uterus in ante-position and depend upon the intra-abdominal pressure to maintain this position without mutilation of the pelvic structures and at the same time provide for the physiological changes incident to child-bearing.

The operation which I recently described in *Surgery, Gynecology and Obstetrics* is one which we have performed about two hundred times during the past two years with most satisfactory results. The abdomen is opened through a midline incision which is carried down to the symphysis pubes. Both sheaths of the recti muscles are opened and dissected free sufficiently to allow the placing of the suture of silk in the under surface of the fascia about two centimeters from the median line just above the symphysis. The suture

is then carried through the underlying muscles and peritoneum just lateral to the reflection of the bladder on the anterior abdominal wall. The peritoneum is next caught up at short intervals down to the internal inguinal ring and along the course of the round ligament to a point about two centimeters from the uterine cornu where the round ligament is pierced and the suture brought out of the abdominal cavity near the point of entrance. The same procedure is carried out on the other side and the sutures are tied. These sutures shorten both the anterior folds of the broad ligaments as well as the round ligaments and at the same time leave no raw surfaces within the abdominal cavity. In order to obtain a pull forward rather than upward the suture is anchored near the symphysis.

When there is a displacement of the cervix a running suture of silk is taken in either utero-sacral ligament, beginning at their junction to the cervix, and carried back to the pelvic brim. In placing these sutures one must avoid the ureters which usually lie outside the ligaments. When these ligatures are tied the cervix is drawn backwards and at the same time a shelf is made for the support of the ovaries. Where there is a displacement of the cervix, this is a most valuable procedure and in many cases is quite sufficient to secure an excellent suspension of the fundus.

CONCLUSIONS.

1. This operation restores the retroverted uterus to its normal position in the pelvis without mutilation of the pelvic structures.
2. There are no raw surfaces left within the abdominal cavity.
3. The anterior flap of the broad ligament is shortened and given a broader attachment to the abdominal wall.
4. There is no interference to bladder function.
5. It allows the normal hypertrophy of the uterine ligaments during pregnancy.
6. More attention should be given the displaced cervix since its restoration to normal position is fully as important as that of the fundus.
7. The shortening of the utero-sacral ligaments is a simple procedure and should be done in all cases in which there is a descensus of the cervix.

The University of California Hospital.

Discussion.

Dr. W. G. Moore: As Dr. Neel stated, there are any number of operations for the support of the uterus. Personally, for the last three or four years, I have been doing the modified Gilliam suggested by Montgomery; that is, pulling the ligaments retroperitoneal to the internal ring, then around and attaching to the fascia near the mid line; this in my hands has given excellent results.

Personally I have not paid much attention to the sacro-uterine ligaments. In those cases which I have been able to follow, the above operation has given good results, but I think the support given by the perineum is more essential than that of the sacro-uterine ligaments.

Dr. A. B. Spalding: I would like to call attention to some work done by Blaisdell a year or so ago at Stanford. He did a very valuable piece of anatomical work on the structure and function of

the sacro-uterine ligaments, which fits in very well with what Dr. Neel has brought out tonight.

When patients suffer from retroversion, they often have marked interference with the bowel function and with the circulation in the veins of the broad ligament. Blaisdell demonstrated that in lower animals and in man, the sacro-uterine ligaments are fan-shaped structures with fibers attached not only to the uterus, but also to the walls of the vagina and to the rectum. To raise the walls of the vagina and raise the rectum to a place where the bowels can functionate properly, relieves the symptoms not only of retroversion but of prolapse and of constipation.

It has been a pleasure to me to listen to this paper. After every operation that I have performed for retroversion, I have hoped that fixation would not demonstrate itself in later pregnancy. The patient has been a source of worry for fear that the round ligaments would not be in the position in which they are needed when the woman has a labor pain. This operation of Dr. Neel's is decidedly an advance which men doing obstetrics and gynecology should notice with interest. Too many men operate who do not confine the women afterward.

Dr. J. Craig Neel, closing discussion: The principle of shortening the broad ligament has been emphasized by Dr. Coffey in a paper published about 1909 in *Surgery, Gynecology and Obstetrics*. In this paper Dr. Coffey goes into detail regarding the support of the abdominal viscera and strongly emphasizes the fact that muscle structure is not a normal support of any organ in the body, and concludes that the uterus is no exception; hence the round ligaments cannot be considered constant uterine supports.

The operation which I have described not only shortens the broad ligaments but at the same time they are given a broad attachment to the abdominal wall without leaving any raw surfaces inside the abdomen. I would like to emphasize once more the importance of shortening the utero-sacral ligaments where there is a displacement of the cervix or a prolapse of the ovaries.

DISCUSSION OF THE PATHOLOGICAL DIVISION OF ST. LUKE'S HOSPITAL CLINICAL CLUB.

By E. V. KNAPP, M.D., F. W. BIRTCH, M.D., GEO. J. McCHESNEY, M.D., and T. G. INMAN, M.D.

If a clinician had a mind sufficiently endowed by nature, and sufficiently cultured by study to be able to appreciate all that is known about anatomy, surgery, pathology, and all other divisions of medicine, and he also had at his disposal time to make examinations of his patient in each of these branches, he would have a most comprehensive, correlated clinical picture; but each division of medicine has developed so extensively that it is impossible to ascertain full knowledge of any one. Furthermore, no individual could systematize his time so that he could cover all divisions of medicine in all cases even though he had the ability to do so. Then the clinical picture must be blurred the further the clinician specializes his work. Since specialization is a necessity, depending on human mental limitation, it must be accepted. On the other hand, the limitation of study and practice along lines of personal interest and adaptability has its advantages, for within them it is more nearly possible to attain perfection. The difficulty is, however, that a clinician who interprets the ills of his patient

partly through written reports of various specialists who have not studied the case as a whole, is not always bringing the whole knowledge of each of them to bear on the case. One or more of these specialists might add to or subtract from their reports were it possible for each to see the case from all other angles. It is evident then that isolated written reports are not always easy to correlate into one comprehensive picture because the facts are not all present. In order that the unwritten information of the various clinicians should not be lost, St. Luke's Hospital Clinical Club organized its Diagnostic Section, which provides that, after the reports are written, the members of the section must meet and add facts to their reports from their general knowledge, until the clinical picture is clear to all as if the whole had been done by one.

This idea of having the pathologist a unit of the Diagnostic Section, employing his laboratory technic as the internist uses his stethoscope, or the aurist uses his speculum, is so new that it may be some time before its advantages for the patient, for the physician, for the hospital, and for the pathologist himself, will be fully appreciated. On the other hand, it is strange indeed that physicians should think that a pathologist can any more easily, or intelligently, discern a patient's ills through the medium of correspondence, than can the symptoms of a patient be interpreted by a surgeon using similar methods. The patient's interests are undoubtedly better served from the pathological department if the pathologist, after writing an unbiased report, has the opportunity to reconsider it, to repeat his work when he sees the necessity, to make clear tests which may or may not verify the first, to make suggestions as to methods of collecting material for investigation, in order that it may be more appropriate for particular purposes; and best of all, he has the opportunity to see the case through the eyes of his colleagues, which gives him a broader medical perspective. It would seem that it is only justice to the patient, that the pathologist be granted the same privileges of checking his work as is afforded the clinicians.

There are some very important advantages from the standpoint of the Diagnostic Section, for they demand that the pathologist keep them daily informed as to the advisability of discarding certain tests, as to the value of certain reactions, as to the importance of recently reported laboratory tests, and as to their significance. This offers his colleagues an opportunity to keep abreast with the times in pathological matters while permitting them to spend the time formerly occupied in acquiring this knowledge in the pursuit of their own studies.

The hospital laboratory is improved as soon as the pathologist is called upon to assume a definite responsibility of which the other internists are entirely relieved. The complaints as to lost, delayed, or inaccurate reports disappear. Harmony is developed and apologies are unnecessary. The pathologist being in a position to avoid unnecessary work and unnecessary repetition of work, it is

possible for his assistants to give more time and consideration to problems having real clinical value.

The pathologist himself by meeting in the consulting room is able to acquire much knowledge from all branches of medicine from the discussions of his colleagues. This gives him a broader outlook in medicine, a greater opportunity to correlate his technical knowledge with the clinical aspect of the case, a greater incentive to pursue the literature in allied subjects, and an insight into problems for research.

In conclusion, it may be stated that the pathological department, like most other special branches of medicine, has been separated too far from the patient. It is likely that the profession will be long in appreciating the disadvantages of our present day methods, yet, by one hospital after another taking up more rational ideas of correlating the various departments, gradually the advantages of such progress will become obvious and these institutions will be repaid by bringing better results to its patients.

E. V. KNAPP, M. D.

CLINICAL INEFFICIENCY OF HOSPITALS AND A SUGGESTED REMEDY.

It is said that hospitals of the type of St. Luke's and St. Francis' are only boarding houses for the sick; that their departments of experimental medicine are unraveling no real medical problems; that the records of their clinical observations are incomplete, inaccurate and inaccessible; that the accomplishments of these hospitals add little or nothing to the progress of medicine; that too frequently, medicine far below the standard, is permitted to be practiced in these institutions. A hospital may have a magnificent building, beautifully equipped, and it may have an efficient staff which fills its beds with pay patients, and it may pay its stockholders large dividends, but unless its medical corps develops new medical ideas, clarifies old laws, shows reasons for discarding erroneous conceptions and publishes the facts so that they are available to the profession, the medical world will not recognize the institution as a producer. The hospital from a progressive medical standpoint has failed; patients will not realize results in relief and cures which they had reason to anticipate, and consequently, their enthusiasm for our methods in the healing art will wane.

Are the patients, the hospital boards, or the medical profession responsible for the present position these hospitals occupy in progressive medicine? The sick are clamoring for more attention, more investigation, and for better treatment. They are seeking the European clinics and the clinics of our own country. They are resorting to quacks, fakes and cults in order to get relief. If they were getting satisfaction from the profession, the humbugs would have less opportunity for disposing of their wares.

Yet the boards of managers of the hospitals have not appreciated the fact that their institutions to be most efficient, must "base the conduct of the financial affairs of the hospital with a view to obtaining the largest and best products for the

community in the way of cures and results instead of as at present assuming that treatment by men of reputation is necessarily the best treatment."

On the other hand, the profession has many things for which it must be chastised. If the complaint of the patient is not frankly presenting, too often the individual is dismissed as a neurasthenic, a neurotic, an hysteric, or a crank, and the unfortunate tries the elixirs, the tonics and the cold tars; then a new doctor. All of these are repeated until at last the sufferer, becoming discouraged with our quackery, betakes himself to some of the cults. Why not? Is a victim of early pulmonary tuberculosis faring any better at the hands of the profession in being treated for psyconeurosis with bromides than he is in being massaged by an osteopath for a dislocated vertebrae? Is not the patient's confidence in his doctor misplaced when the physician discloses a very obvious pathological condition and immediately dismisses the rest of the individual's anatomy with but a cursory examination? Let us suppose the case to be a chronic appendix with an undiagnosed pulmonary tuberculosis. The unsuspecting surgeon recommends an operation to cure the dyspeptic symptoms and after it is performed, the patient is discharged with a clean bill of health, only to return with his former complaint. The surgeon is baffled. He cannot quite make out why this should be. He imagines the patient may have a few adhesions or else he is probably neurotic, more likely the latter. He fills him up on Blaud's pills, but still the patient continues on his downward course, cursing the surgeon because of his unimproved condition. This type of a mistake happens least often in the hands of an internist, more commonly with the general practitioner, and most frequently with the specialist. Again this same medical man may make a complete and thorough investigation of his patient, unearth all his present ills and make the proper recommendation. But too frequently he leaves the patient here. Re-examination is neglected; changes in existing pathological conditions pass unrecognized, and the onset of new lesions is overlooked. How often is empyema considered an unresolved pneumonia and gastric cancer still the old ulcer. This happens with the poorly trained physician; with the lazy medical man, and with the too busy practitioner who sees from 15 to 20 people during office hours.

Out in our neck of the woods all of these crimes have been committed and all have committed them. On account of these short-comings and the bad results thus produced, it seems to some of us that an effort should be made toward their solution, so more than two years ago the St. Luke's Hospital Clinical Club was organized. It was decided to meet on Friday after office hours to study cases. In the beginning Cabot's case histories and findings were read. The diagnostic probabilities were worked out on the blackboard and the autopsy report read, but it was soon evident that the case reports were incomplete and misleading. In addition, club members demon-

strated patients who presented difficult questions for diagnosis. The patient was presented, with a report of the history, ordinary physical examination, and the customary laboratory findings. Frequently, however, it was necessary to return the patient to his doctor with instructions for further investigation. At the next demonstration, it was observed not uncommonly that in order to clarify the case, it was advisable to have the opinion of some of the members of the club who had done special work, along the line the case indicated. The specialist often would return verbally a purely specialist report, the case remaining hazy and incomplete.

This forced the club to seek other methods for working up the cases. It was decided to organize members doing special work into a diagnostic section. Under this arrangement, the club members pooled patients for investigation.

At present, this work is being conducted on the following lines. The members of the Diagnostic Section examine the cases individually and make written reports. At noon each day, the section meets to discuss the cases. If at the first consultation a conclusion cannot be reached, the various members of the section suggest further investigation to be reported on the following day. The same procedure is followed day after day until a diagnosis is made, or until it is evident that a conclusion cannot be reached. The physician furnishing the case is invited to meet with the section on the last day of discussion. This method has given great satisfaction. A case is viewed from angles never seen before. It makes reasonably sure of no omissions. The case frequently drops into a department where it is not suspected that it belongs, and it is possible to advise patients more exactly as to their physical condition and more fully as to the probabilities of cure. The records of these cases and the details of the symptomatology, clinical and laboratory findings are filed and catalogued in order that members may derive the most benefit from the material.

To illustrate the necessity of this, I have made an analysis of our past histories. In the last 15 years St. Luke's has filed more than 24,000 case histories, enough material to make a system of medicine and surgery. Taking 100 of these case histories at random, that is, a few from each volume, it was found that not more than 1% had any real scientific value. In order to obviate this great waste of clinical material, it is proposed that a system be inaugurated, which may be called the banker's method.

The complaint of unwarranted operations, unnecessary exploratory incisions, inexcusable omissions and blunders will largely be eliminated as soon as those who do surgery insist upon a thorough and complete preoperative examination. It is conceded that surgical mortality can be lowered, and end results improved more by proper preoperative examinations than by any other method.

The public health reports, the daily press, medical lectures and demonstrations, instruction on

prophylactic medicine, and social service work are disseminating general knowledge and consequently the laity is discriminating better between good and bad medicine. This factor, together with the various cults, which spring up and flourish for a time, only acts as a spur to the profession and tends to prevent procrastination, indifference and self-satisfaction. This only means that the process of discrimination will work slowly but persistently in the direction of elimination of the unprepared. Better medicine, however, must come from better methods of study. To the clinician the subject for study is the patient himself, and while academic knowledge is necessary, the ultimate progress in science of medicine must come from the careful co-relation of all clinical observations. The teaching in the medical colleges is responsible in no small way for the student's lack of appreciation of the value of preserving clinical material. If these students escape from the universities improperly instructed, it becomes the duty of the hospitals, for self-protection and for the good of medicine as a whole, to orient their patronage into the proper perspective. Hospitals which fail to recognize this important function will find in but a short time that they are falling into the same class that unqualified inferior medical colleges have fallen to-day.

For whatever progress St. Luke's Hospital Clinical Club has made, it is indebted to the Board of Directors for material aid; to the members of the staff for encouragement; to Dr. Read for compilation of the history form; to Dr. William Dorr for working out the details of the records, and to the profession who have submitted their cases.

F. W. BIRTCH, M. D.

THE ORTHOPEDIC DIVISION OF ST. LUKE'S HOSPITAL CLINICAL CLUB.

It is the purpose of this paper to show how the orthopedic specialist can help to make a complete, well-rounded diagnosis in an average as well as an obscure clinical problem. To accomplish this, we ascertain first what the patient complains of, and then endeavor to find any cause therefor in the patient's bone, joint or muscle system. Any deviations from normal in these systems, found to have a bearing upon the patient's illness, are studied, elaborated and recorded. After this is done, a general rapid survey is made of the patient as a whole, and any other defects of posture, standing, static faults of the feet, lower limbs or spine are noted, in addition to limitation of joint and muscle function, results of old traumatism, such as fractures, even if they are not complained of at present and have evidently no relation to the present trouble. They may have weight, however, in summing up the case and estimating the prognosis. These facts are also of statistical value in gaining a knowledge of the amount of abnormality or defect existing, which may apparently be of no consequence to the patient.

As an example of this, we had an elderly, heavy-set man, suffering from liver trouble and broncho-pneumonia. In the course of my routine examination, I found that he had had infantile

paralysis in childhood, leaving him with one flail foot and the other with about one-half of the muscles alive. Yet, without braces, he had worked for years at the trade of blacksmith, even holding horses' feet between his knees in the familiar attitude. Facts like these are of value to orthopedists to broaden their conceptions of the end results of the diseases, treated usually in the active stage.

To study the question in detail, let us take up the spine first, and see some of its relations to ordinary medical problems.

I think we make some of our gravest mistakes in forgetting the axiom that there are two sides to every patient. Pain anywhere in the thoracic or abdominal cavities may have its sole origin in a spinal disease or injury, causing pressure on the spinal nerves at their roots, the pain being referred to the nerve terminals anteriorly. I venture to state that four-fifths of the cases of spinal tuberculosis have been treated for affections of the thoracic or abdominal viscera, at a state when an orthopedic examination of the spine could have revealed the true source of the pain. On the other hand, a persistent backache may be due solely to some trouble of the abdominal or pelvic viscera, such as ptosis, for example, causing strain upon their ligamentous attachments to the spine.

Our orthopedic examination of the spine, then, should determine positively the presence or absence of:

1. Disease of the vertebral column, either tuberculosis, osteoarthritis or the less common bone diseases.
2. Similar diseases in the shoulder girdle, ribs or pelvic girdle. Especially in the last we watch for relaxation or mobility of the sacroiliac joint, which may simulate disease of the pelvic viscera, or complicate pregnancy and the menses.
3. Affections of the muscles or ligaments of the spinal region, such as traumatism, sprains, strains, toxemias, lumbago, etc.
4. Affections of the spinal cord, membranes or roots, from tumor growths, syphilis, etc.
5. Static errors, such as may be due to a short leg, knock knees, valgus ankles or flat feet, all causing strain on certain sets of muscles, which, in striving to preserve the equilibrium, are not competent for the task.

No examination of the spine is complete without an examination of the lower limbs, especially the feet.

Inequality of 1-3 cm. in the length of the legs is far more common than ordinarily supposed, and sometimes—not always—causes pain in the lower spine or pelvic regions. Knock knees may do the same thing, but offers no difficulty in diagnosis. Consideration of the feet, however, is all important, and often reveals surprises even to the orthopedist, whose very title is commonly (although erroneously) supposed to be derived from the Latin word for foot. As Whitman says, the foot is a lever, by means of which, the weight of the body is lifted and propelled. If loosely constructed or insufficiently supported by its ligaments, the foot cannot be properly controlled by the

muscles. This means eventually muscle spasm, fatigue and pain of varying amount. The muscles affected may not necessarily be attached to the foot, but may be in the neighborhood of the hip joint, lumbar spine, or even the shoulders, but nevertheless are muscles concerned in maintaining balance, i. e., preserving the erect position of the body upon the feet. Consequently, a distressing lumbago may resist all attempts at relief; the feet may be painless and arches high, but still the insertion of arch-supports relieves an unsuspected arch-strain, and lumbago vanishes. A clew to the right diagnosis of referred pain due to arch strain when the arch may be normal or even higher than normal, is the fact that the occupation is apt to be one requiring much standing. Usually, however, the diagnosis is easy, a history of foot strain being present, with pains up the limbs, thence to the spine and as far as the neck in some cases.

One of our cases had had a ventro-suspension for backache with no relief. Orthopedic examination, however, revealed pronated feet and lowered tonicity of spinal ligaments and muscles. Arch supports and a long reinforced corset have relieved the condition.

Our orthopedic examination of the spine is of assistance in interpreting pain symptoms of many visceral diseases, such as pleuritic pains, intercostal neuralgia, deep pains of aneurisms, inflammation of the kidney or spleen, pain under the right shoulder-blade, due to an enlarged gall-bladder, or under the left shoulder-blade, due to an overloaded heart; pain in the lumbo sacral region, due to disease or displacement of the pelvic viscera.

In none of these symptoms, is loss of spinal mobility present, neither are the curves of the spine altered, hence spinal involvement is ruled out and attention is fixed upon the offending viscus.

Leaving the weight-bearing mechanism, let us consider "rheumatism," which I still find a convenient term to designate the non-tubercular chronic arthritis, either villous, hypertrophic or atrophic. They present every grade of insidiousness of inception and chronicity of course, and by their slow, baffling onset, with months of pain before slight swelling, limitation of motion or X-ray changes give a clew, they tend all too often to wear out the patient's fortitude or mental resistance to the disease, and leave him a so-called neurasthenic, before the diagnosis becomes easy or well-established.

Here orthopedic methods of examination help greatly to make an early diagnosis and to forecast the probable severity and length of the disease. Much of the treatment is of an orthopedic character, but that is not in the scope of this paper.

To conclude: I hope I have made clear to you how a routine orthopedic examination of the ordinary patient is of definite value in making a complete diagnosis. Sometimes it reveals unsuspected factors of importance, other times rules out factors which can be shown to be insignificant. Almost always it can help in an estimation of the prognosis, or extent and period of disability, by the

opinion given concerning the condition of the joint, skeletal and muscle systems.

By the continuous, daily consultations, some of the orthopedic viewpoint is given to the other clinicians, and in exchange the orthopedist receives much of their viewpoint. As a result, each clinician tends to get a proper perspective of the patient as a whole, and the values of separate symptoms run less danger of being minimized or exaggerated.

In the old days, the sick person could demand that his medical attendant should know all there was to know about the healing art. In present times, a few deluded or ignorant ones still expect omniscience from their medical adviser, but very few. Medical science is widening its boundaries at such a tremendous rate that the number of recognized specialties may be doubled in the next twenty years, as it has much more than doubled in the last twenty.

The laity see this and know that it is for their good. They object principally to the expense and time involved in obtaining a complete examination.

By thus superimposing the pictures and viewpoints of the various specialists, we obtain a composite picture or diagnosis, far more valuable to the patient, with less trouble and expense.

GEO. J. MCCHESENEY, M. D.

THE SO-CALLED NEURASTHENIC PATIENTS FROM
THE NEUROLOGICAL DIVISION OF ST. LUKE'S
HOSPITAL CLINICAL CLUB.

Of the patients who present themselves for investigation to an organization like the Diagnostic Section of the St. Luke's Hospital Clinical Club it is to be expected that quite a large proportion will offer some unusual difficulties in diagnosis. Our experience, to date, has demonstrated this to be true. Some of the individuals have required numerous examinations and re-examinations made in the light of new evidence obtained by consultation with our associates. Only by this extreme care have we been able to discover the truth in some of the more puzzling cases.

In not a few instances these patients have been those who were ranked as chronic complainers. Patients, to whom the medical man was no stranger. Indeed, the search for health had taken a number far from medical supervision into fields where the physician is looked upon as a co-worker of Satan and drugs as deadly poison. To most of these patients the careful and thorough examination seemed a welcome surprise and served to again create a feeling of confidence in things medical. It also suggested the difficulties which the case presented and thus, happily, aided in removing any feeling of dissatisfaction which may have been engendered toward former medical advisors.

The examinations are conducted in a quite impersonal way. This has a certain value in work of this kind for the attention of the patient is directed to the methods employed rather than to the person employing them, and little opportunity is given for personal repartee which so often diverts the attention from the point at issue. The

individual returns to his physician with little remembrance of the examiners much in the same state of mind as that in which he would return after leaving a specimen of blood or sputum at a laboratory with instructions to send the report to his doctor. The object of this paper is to call attention to one type of patient which has formed no small proportion of our first series since this type affords an opportunity of demonstrating the value of the method which has just been brought to your notice.

Of the many diagnostic pitfalls which stand ready to ensnare the medical man perhaps there are none which he must be more careful to avoid than the one lurking behind the name Neurasthenia. For more than two decades leaders of medical thought have debated as to the right of this uncertainly defined condition to an existence as a separate clinical entity.

That Neurasthenic states frequently exist will scarcely be denied by anyone but more careful examination of the Neurasthenic individual has disclosed, time and again, definite pathological conditions, upon which, to a very large extent, the asthenia depended. Appreciation of this fact by the profession has been followed by a diminution in the number of Neurasthenics occurring in daily practice but, unfortunately, instances are not uncommonly observed in which the effort to fix the blame upon some organic disturbance has resulted in an attack, surgical or medical, upon some discovered anomaly which had nothing whatever to do with the neurasthenic state. Thus Aschaffenburg remarks, "The time has fortunately passed in which every nervous woman had to have her womb curetted or pessaries inserted, or had to undergo ventral fixation or even castration. Nevertheless, we still find too many patients who have undergone serious abdominal operations, have had the appendix removed, or have been operated upon for ulcers of the stomach or gall-bladder troubles, though no serious disease was ever present."

Broadly speaking, Neurasthenia may be briefly defined as a physical state in which there is a diminished capability on the part of the affected individual to cope with the customary duties in and ex-corpora consequent upon his existence. He tires easily, recuperates slowly and is little inclined to attempt work requiring much thought or physical exertion. To these symptoms there is often added a tendency to attach undue importance to those demonstrable ailments which may be present. Any inherent psychopathic defect asserts itself and there may come to exist an almost incomprehensible jumble of mental and physical symptoms and complaints to listen to the recital of which taxes the forbearance of the most patient.

Perhaps time and careful investigation will show that those individuals in whom the Neurasthenic state takes root are in reality the subjects of an hereditary state whereby the tissues, especially the nerve structures, are incapable of quickly restoring themselves after the expenditure of energy. This would be in accord with the exhaustion theory

of Edinger to the elucidation of which Auerbach has recently brought new evidence.

Regardless, however, of the inherent tendencies of these patients one will only be following in the direction dictated by accrued experience in asserting that the Neurasthenic, when he seeks the help of the physician, always has something else wrong with him. Usually this "something" produces symptoms altogether out of proportion to the extent of the pathological lesion present and of a character which tends to divert the attention from the real cause.

The untimely selection of improper methods of treatment is due, in many instances to a lack of appreciation of the fact that certain diseases cause an asthenia as part of their symptomatology. Among these may be mentioned syphilis, tuberculosis, disorders of digestion and nutrition, arteriosclerosis, kidney insufficiency, infections, glandular disturbances, etc. There is often a tendency to confound hysteria and mild psychoses with the Neurasthenic state. Again it is so easy to prescribe rest, diet and tonics, with the result that the consequent temporary improvement gives ground for the belief that the diagnosis was correct and no further attempt is made to discover the real cause.

True, there are some conditions resembling the common descriptions of neurasthenia in which it seems impossible to place the finger upon anything tangibly pathologic but it is manifestly incorrect to state that there is no organic disease present until the individual has been subjected to the most searching examination. When this has been done the proportion of cases in which no causative factor can be found will be too small for consideration.

In our first series of fifty cases there were twelve which gave as the complaint nervousness or nervousness and weakness. Of these there were nine which, at some time or other, had been called Neurasthenics.

When tested in the crucible of the complete examination three were found to be the subjects of pulmonary tuberculosis, two of hyperthyroidism, two of arteriosclerosis, one of visceroptosis, one of cirrhosis of the liver, one had a sacralized fifth lumbar vertebrae, one was an hysteric and the twelfth developed acute mania while in the hospital.

Of three cases where nervousness was only one of the complaints one had pulmonary tuberculosis, hyperthyroidism, enteroptosis with achylia, duodenal ulcer, bacillary infection of the urinary tract, and stones in the bladder.

A second had hyperplastic goitre, achylia, visceroptosis, adhesions about the appendix region, and chronic constipation.

The third had enteroptosis, kidney insufficiency, chronic follicular tonsillitis and syphilitic leptomeningitis.

From this cursory review of one of the most important chapters in medicine can be drawn a timely lesson. If patients having as much real disease, as had those who suggested this paper, are allowed to pass from doctor to doctor without

receiving any other solace than that derived from being told that they are Neurasthenics with the added implication that they only think that they are sick, then Medicine has fallen far short of her real destiny. Can these people be blamed for their loss of faith in therapeutic measures misapplied? Is it any wonder that they seek the comfort offered by fantastic beliefs which, for a time at least, raise a feeling of hope?

In a number of the cases referred to it was only with difficulty that anxious relatives could prevail upon the sufferer to again seek medical advice, and it was a source of great satisfaction to note the gradual change in the mental attitude of these patients as the examination approached completion. Perhaps they felt that much of the distrust with which they looked upon medical work had been due, not to the deficiency of medicine as a science, but rather to the incompleteness of its scientific application. It is not too much to hope that with the development and spread of this idea in medical work many of those who now seek relief in barren fields may be reclaimed to medicine and become her staunch supporters.

T. G. INMAN, M. D.

A BRIEF REFERENCE TO THE BACTERIOLOGY OF NASAL SINUS DISEASES.*

By J. J. KYLE, M. D., Los Angeles.

The following was not received in time to appear in an earlier issue. The original article appeared in the June issue, page 238, entitled "A Brief Reference to the Bacteriology of Nasal Sinus Diseases." By Dr. J. J. Kyle.

Discussion.

E. C. Sewall, M.D.: I wish to congratulate Drs. Horn and Vectors on the excellent work they have done and the very clear exposition of the same that they have given us.

The claims of Perez and those who have carried on this work, came to us originally, as a very distinct shock to our preconceived ideas to the curability of true ozaena. We have now enough evidence placed before us, to cause those of us who "don't know" to "find out" and I trust, that experience may substantiate the results that have been reported here. I would ask Dr. Horn if he has noted the unusual difficulty in penetrating the bone with the puncture needle in old ozaena cases, in diagnosing the condition of the antrum?

Regarding Dr. Kyle's paper, I understood him to say that the longer a case of ozaena has run, the worse the condition of the nose as to crusts: I believe I am correct in stating that, except for atrophy of the bony structures, the other conditions are improved in old cases that might be said to have "run their course."

C. F. Welty, M.D.: My first remarks will be directed to the illumination test for the antrum of Highmore; it is neither reliable in a positive nor a negative way.

In regard to the X-ray for the antrum of Highmore, will say that it is more reliable than the illumination test.

A sinus that has once been infected produces

a positive finding in many cases. I am of the opinion that a certain change takes place in the mucous membrane, producing the characteristic findings. This has been verified by probe puncture on many different occasions.

Now if this is so for the antrum of Highmore, it is doubly true for the frontal sinus, because the frontal sinus is anatomically built to drain itself if there is sufficient opening.

In regard to the bacteriology of the class of cases that Doctor Kyle refers to, I will say that I have yet to see an acute antrum of Highmore from infection by puncture and washing.

These cases should not be subjected to the intranasal operations so quickly, as the nose is permanently impaired.

In regard to the ozaena question, I wish to compliment Drs. Horn and Victors on their painstaking work; it will undoubtedly yield good results. However, in conclusion, Dr. Horn states that the cases should be operated first and then the vaccine used. This is practically what I have contended for some time past. In other words, you cannot destroy polypi and caries (clinical ozaena) by the use of vaccines any more than you can cure a chronic suppurative otitis media by the injection of carbolic acid.

B. Jablons, M.D.: In connection with the bacteriology of ozaena, I would like to ask Drs. Horn and Victors whether they have attempted isolation of the infecting bacterium after previous inoculation with a stock vaccine? It has been proven that it is much easier to isolate an organism very often after an inflammatory reaction has taken place.

With regard to the treatment of these conditions with vaccine, I wish to take issue with Dr. Horn on this subject,—the idea of using large doses which is fraught with a great deal of danger. We know that proteid bodies of whatever nature are more or less toxic, and the more proteid we introduce into the body, the more toxin do we introduce into the body. The effects that we observe very often, following the inoculation of large doses of vaccine, may be attributed entirely to the poisoning of the body with large doses of toxic proteid. Many times it is sufficient to inject small quantities, often repeated in order to obtain the proper response on the part of the defective mechanism of the body.

M. W. Fredrick, M.D.: I would like to ask Dr. Horn what local treatment he uses in connection with the vaccine? Anything as stubborn as ozaena has naturally called for a large number of different kinds of treatment, most of which were merely palliative. Even with the use of the vaccine there must be some local measures which will support the vaccine treatment. Cleanliness is, of course, and always has been, our most reliable measure, but there may be some topical application that would be valuable in assisting the mucosa to the resumption of a healthy function.

Jno. J. Kyle, M.D.: One point mentioned by Dr. Horn was to the effect that these cases must have a sickening odor. If you are treating these cases, the odor will practically disappear, but if the case goes on for a few weeks, without treatment, the odor returns. I have found what I think is the Perez bacillus. There is no question but that in many of these cases of ozaena we find a condition of sclerosis of the bony structures of the nasal cavities.

I wish, with Dr. Welty, to pay my respects to Dr. Horn's untiring efforts, in trying to solve the question of ozaena, and I have been greatly benefited by his notes regarding the matter in question, and by Dr. Horn's and Dr. Victor's remarks relative to the mobility of the organism. I think

I can now tell the Perez bacillus from the Friedlander.

Closing remarks by Dr. Henry Horn: There are so many phases of this subject, that in a paper to twenty minutes, one cannot go into the subject in detail. The final report will be very extensive, and you will find that all of the questions which have been asked have been fully considered. One point I overlooked which I wish to mention, and which was one of the most interesting things that came out during the entire investigation. It is really so important that it deserves far more study, but I am going to report it to you just as the matter stands at present. At the University of California, all cases of syphilis are handled by Dr. Lisser. He was kind enough to collect all of his cases of syphilitic ozaena for my examination. I do not think syphilis has anything to do with true ozaena. This question is discussed in detail in my paper. Salvarsan is of no value in the treatment of pure ozaena. I would like before I close to give one case history:

A girl came to me September, 1915, after being treated for ozaena for years. The odor was so terrible that you could hardly remain in the same room with her. She had a typical saddle nose, yellow skin, and much under weight. I was requested not to suggest an unfavorable prognosis, as she was suffering from a profound melancholia, and had threatened suicide. I gave her in all nineteen injections of our mixed ozaena and the Saturday before I came down here, she called to see me. I found her color good, her breath sweet, a gain of 19 pounds and no crusts.

Another case, that of a dentist 27 years of age, who had been compelled to give up his practice. I gave him fourteen injections, and he remained away from my office three months, and when he came down the other day, I could detect no odor and I consider the man clinically cured.

I do not claim any bacteriological cures at all. The cases which came for examination just before this meeting will all be re-examined. If we do not find any Perez bacillus present we will consider them temporarily cured. I consider a case clinically cured when, after an absence of three to six months without treatment, they return free from odor and crusts. Of the permanency of the cure, nothing can be said at this time. The limitations of vaccine therapy are too well known to make it necessary to suggest caution, as to the ultimate favorable prognosis. What I do believe, however, is that we have, in our mixed ozaena vaccine, a powerful therapeutic agent, worthy of a fair and impartial trial.

Closing remarks of Ernest A. Victors, M. D.: In answer to Dr. Jablon's question—we had, in several instances, isolated the organism after vaccine injections when pre-vaccine examinations were negative. Special vaccines have not been used.

BOOK REVIEWS

Manual of Practical Nursing. Prepared for the Washington University Training School for Nurses in the Barnes and St. Louis Children's Hospitals. Edited by Helen Lillian Bridge, B. S., R. N. St. Louis: C. V. Mosby Company, 1916.

This manual was prepared for use in the Washington University Training School for Nurses at the Barnes and St. Louis Children's Hospitals. In spite of its applying specially to the services in these hospitals it contains such excellently clear and explicit directions for the daily ward work of a nurse that it cannot fail to prove of interest to those in charge of other training schools. It would be good if all large hospitals issued similar printed manuals for which this little book might well serve as a model.

L. E.

Infections of the Hand. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hands and Forearm. By Allen B. Kanavel, M. D., Assistant Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Wesley and Cook County Hospitals, Chicago. New (3d) edition, thoroughly revised. Octavo, 498 pages, with 161 illustrations. Cloth, \$3.75 net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

It is a pleasure to see that this excellent monograph has again reached a new edition. The new anatomical plates are much handier to use than the old ones; a new chapter on the "Relation of Acute Infective Processes to Industrial Pursuits" gives statistical information of interest to men doing industrial accident work.

There is scarcely a surgical condition equal in frequency and economic importance to infections of the hand, nor one where mistakes in treatment more commonly do harm. The general practitioner will find the book a useful and convenient guide in overcoming the difficulties that beset these cases; its explicitness and thorough anatomical studies will make it a standard for a long time to come. We can again heartily recommend it to students, surgeons and general practitioners alike.

L. E.

Embryology, Anatomy, and Diseases of the Umbilicus Together with Diseases of the Urachus. By Thomas S. Cullen, Associate Professor of Gynecology in the Johns Hopkins University. Large octavo of 680 pages with 269 original illustrations and 7 plates by Max Brodel and August Horn. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$7.50 net; half morocco, \$9.00 net.

From such a great authority as Thomas S. Cullen one would naturally look for a book expounding chiefly the views and the experience of the author himself, with each pathological or clinical condition illustrated by one or two typical case-histories; this would vividly bring out the personality of the author and give greater unity, force and weight to the whole work. Cullen has preferred instead to efface his personality and contents himself to a great extent with merely reflecting the views of many different men and with enumerating an immense number of cases gathered from all sources obtainable. This, of course, enormously swells the size of the volume, resulting in its becoming a compilation of seven hundred pages of everything that has ever been reported on the umbilicus.

The finest parts of the work, in my opinion, are the first chapter on the embryology of the umbilicus, its beautiful colored plates, the best and most instructive I have ever seen on this subject, being especially worthy of mention; the chapter on the remnants of the omphalo-mesenteric duct, and all the chapters on the urachal rests. The space devoted to such topics as Meckel's diverticulum and umbilical hernia is rather scanty for a work of such encyclopedic size, and would scarcely suffice for the guidance of the surgeon.

This book may be considered as a complete catalogue of all the pathological conditions of the umbilicus and should be of great value as a standard and reference for the teacher, the obstetrician, the gynaecologist and the museum curator.

P. S. C.

SOCIETY REPORTS

MARIN COUNTY.

The June meeting of this Society was held at the home of Dr. L. L. Stanley, San Quentin, Cal., June

8th, 1916. The speaker of the evening was Dr. R. L. Rigdon of San Francisco. The topic was Diagnosis of Surgical Affections of the Kidney, illustrated by radiograms. The July meeting of this Society was held at the home of Dr. A. H. Mays, Sausalito, Cal., on July 13th, 1916. We had the pleasure of having with us Dr. Leo Eloesser, who had recently returned from Germany. Dr. Eloesser gave a very interesting talk on war-fractures of the femur, also the tibia and fibula, illustrated by radiographs and tracings. Dr. Eloesser also exhibited a number of fragments of shells which had been extracted from operative wounds. We were given an impromptu talk on carbuncle by Dr. Thomas W. Huntington.

Respectfully yours,

O. P. STOWE, Secretary.

MENDOCINO COUNTY.

The President, Dr. C. L. Gregory, called a meeting of the Society for the evening of the 8th of July at Fort Bragg. It was held in the office of Dr. F. McLean Campbell. Those present were Drs. F. McL. Campbell, C. L. Sweet, F. C. Piersol, H. Peddicord and O. H. Beckman.

A banquet in the Hospital Building, preceded the meeting, and I must say that Dr. Campbell's cook is a master in the culinary art, and so is the doctor in hospitality.

On account of a Railway Surgeons' meeting on the same date, the attendance was not what had been expected, but the lack in numbers was made up by geniality.

The meeting came to order with our host of the evening—Dr. Campbell—occupying the chair. The paper for the evening—"Abortion, and some suggestions how to lessen criminal abortions"—was read by Dr. Beckman. Among other interesting subjects and cases discussed, Dr. Campbell described that of a 13-year-old girl who had been sick with influenza. Later on general peritonitis developed and laparotomy had been performed to relieve conditions. At the autopsy the left ureter was found blocked, with the kidney very much enlarged and containing nothing but pus.

OSWALD H. BECKMAN, Sec.

SACRAMENTO COUNTY.

Regular July meeting called to order by Dr. J. W. James, vice-president. Minutes of last meeting read and approved. Cases reported, none. Paper of the evening, Recent Work in Epilepsy, by Dr. E. W. Twitchell. Discussed by Drs. Seavey, Barnard, Lindsay, Howard, Gundrum. Closed by E. W. Twitchell. Application of Dr. P. M. Thomas read. Report of Board of Directors heard. Moved, seconded and carried that August meeting be omitted. Dr. Twitchell reported progress from the Medical Milk Commission. Adjourned.

F. F. GUNDRUM, M.D.,

Secretary-Treasurer.

OFFICERS OF SECTIONS OF STATE SOCIETY.

Eye, Ear, Nose and Throat Section—Chairman, B. F. Church, Redlands; secretary, Dr. G. P. Wintermute, San Francisco.

Obstetrics and Gynecology—Chairman, E. N. Ewer, Oakland; secretary, A. B. Spalding, San Francisco.

Genito-Urinary—Chairman, Victor G. Vecki, San Francisco; secretary, W. E. Stevens, San Francisco.

Nervous and Mental Diseases—Chairman, A. W. Hoisholt, Napa; secretary, J. Ross Moore, Los Angeles.

SOCIAL INSURANCE.

The following committee on Social Insurance has been appointed for Sacramento County: E. M. Wilder, chairman; W. A. Beattie, J. Parker Dillon.

STANFORD UNIVERSITY MEDICAL SCHOOL. STANFORD CLINICAL SOCIETY.

The Cooper Clinical Society has been reorganized and the name changed to "The Stanford Clinical Society." The meetings are held on the first Monday of each month at the Clinical Building of the Medical School, Sacramento and Webster streets, at 8:15 p. m.

The members of the State Medical Society of California are cordially invited to attend the meetings.

The first meeting of the year will be held on Monday evening, September 11, 1916, at 8:15, and Dr. A. W. Hewlett, Professor of Medicine, will discuss the following subject: "The Toxic Effect of Urea on Normal Individuals."

HARRY E. ALDERSON, President.
GEORGE D. BARNETT, Secretary.

NAVY RESERVE.

Washington, July 17, 1916.

At the examination recently held in various cities throughout the United States the following named medical men successfully passed the examination for appointment as assistant surgeon in the Medical Reserve Corps, with a view to subsequent examination for appointment in the Medical Corps of the Navy:

James A. Halpin, M.D., Washington, D. C.
William D. Heaton, M.D., Wahoo, Neb.
Aubrey M. Larsen, M.D., Salt Lake City, Utah.
Lincoln Humphreys, M.D., Argenta, Arkansas.
Theo. Edward Cox, M.D., Cleveland, Ohio.
Arthur W. Hoaglund, M.D., Minneapolis, Minn.
Carroll H. Francis, M.D., Camden, N. J.
Harold L. Jensen, M.D., San Francisco, Cal.

REPORT OF THE MEETING OF THE STATE BOARD OF HEALTH ON AUG. 5, 1916.

The regular monthly meeting of the State Board of Health was held at Sacramento on August 5, 1916. The following members were present: Drs. George E. Ebright, F. F. Gundrum, Edward F. Glaser, Robert A. Peers and Wilbur A. Sawyer.

Three appointments were made to fill vacancies on the regular staff. Nine inspectors were appointed to serve without pay from the state in controlling typhoid fever in the West Side oil fields of Kern County. These men are under salary from the county and cities involved. The temporary appointment of eight men as health inspectors for the purpose of excluding poliomyelitis cases and contacts by inspecting transcontinental trains was confirmed.

By the following resolution the State Board of Health changed its system of preventing the introduction of poliomyelitis into California, and adopted a method uniform with that in Oregon and Washington:

"Resolved, That the transcontinental railroads entering California be requested to co-operate with the State Board of Health by having their conductors and station agents notify local health officers, on cards furnished by the board, of the arrival of travelers from points in which poliomyelitis is epidemic, in uniformity with the procedure now in effect in Washington and Oregon; and be it further

"Resolved, That the present system of border inspection by employees of the Board, be discontinued on August 25th, if the arrangement with the railroads has been consummated."

Regulations for the prevention of poliomyelitis were amended and adopted by the board.

A petition was received from citizens of Modoc County asking the board to continue the quarantine against rabies. The following action was taken:

"Resolved, That the quarantine against rabies in Modoc and Lassen counties is necessary and shall be continued until six months after the last reported case."

The failure of certain health officers to comply with the law by reporting cases of communicable diseases to the State Board of Health was discussed, and the following resolution was adopted:

"Whereas, Dr. Harry O. Hund, health officer of Ross; Dr. J. C. Bainbridge, health officer of Santa Barbara County; Dr. W. E. Downing, health officer of Rio Vista; Dr. S. McL. Doherty, health officer of Napa County, and Dr. J. W. Reese, health officer of Perris, have failed to file any reports regarding the presence or absence of communicable diseases during the months of April, May, June and July, 1916, in accordance with the law, although repeatedly warned; therefore be it

"Resolved, That the local authorities be requested to remove them from office and to appoint efficient health officers in their places, and that the names of the delinquents be published in connection with the minutes of this meeting."

On the recommendation of Mr. C. G. Gillespie, Director of the Bureau of Sanitary Engineering, the following permits were granted:

To the City of Santa Rosa, a temporary permit to supply water.

To the Visalia City Water Company, a permanent permit to supply water.

To the City of Kingsburg, a temporary permit to dispose of sewage on its sewer farm.

To the City of Kingsburg, a temporary permit to supply water.

To the City of Lompoc, a permanent permit to dispose of sewage into Santa Ynez River after clarification.

The use of sewage in irrigating green vegetables was forbidden in the following resolution:

"Resolved, That sewage or sewage-polluted water shall not be used for irrigating vegetables, berries, low-growing fruits, or green corn intended to be used for human consumption; and be it further

"Resolved, That sewage or sewage-polluted water may be used for irrigating vegetables or grains which are harvested in the dry state, such as beans; or vegetables, grains, or alfalfa used exclusively as food for stock, with the exception that dairy cattle shall not be pastured on land under irrigation by sewage; or trees bearing fruits or nuts."

The use of human excreta, or night-soil, in fertilizing or irrigating vegetables or fruits was forbidden by resolution.

It was ordered that the attention of local health officers be called to the fact that the discharge of sewage through wells into ground waters is in violation of the law, and that health officers be instructed to take such legal steps as may be necessary to cause the abatement of the practice.

The offer of the Chlorine Sterilization Equipment Company to loan to the State Board of Health a portable liquid chlorine machine for use in the emergency sterilization of public water supplies was accepted, and the thanks of the Board were extended to the Company.

Certificates as registered nurse were granted to 152 nurses who had passed the examination held by the Bureau of Registration of Nurses on June 13 and 14, in Los Angeles, San Francisco and Sacramento. Out of 197 applicants the above number passed. One certificate was granted through reciprocity.

The Sierra Hospital at Sonoma was accredited as a school for nurses for one year.

Hearings were then held in cases of alleged violations of the foods and drugs act and appropriate actions were taken.

W. A. SAWYER, Secretary.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Mead's Dry Malt Soup Stock.—A mixture containing desiccated maltose and desiccated dextrin (about equal parts) 47 per cent., wheat flour 47 per cent., potassium carbonate 1 per cent., and moisture 5 per cent. Mead Johnson & Co., Jersey City, N. J. (Jour. A. M. A., May 20, 1916, p. 1623).

Phenolphthalein-Monsanta.—A non-proprietary preparation of phenolphthalein admitted to New and Nonofficial Remedies (Jour. A. M. A., May 20, 1916, p. 1623).

Enteric Coated Glycotauro Tablets.—Each tablet contains glycotauro 2 grains and is coated with salol. Hynson, Westcott & Co., Baltimore, Md.

Petroagar.—Each 100 gm. contains petrolatum 72 gm., agar 22 gm. with powdered licorice, cocoa and oil of anise sufficient to flavor. H. C. Merker Co., Chicago, Ill.

Petrobran.—Each 100 gm. contains petrolatum 74 gm., bran 22 gm. with powdered licorice and "oil of pineapple" (ethyl butyrate) sufficient to flavor. H. C. Merker Co., Chicago, Ill. (Jour. A. M. A., June 10, 1916, p. 1857).

ITEMS OF INTEREST.

Vaccine Treatment.—Hektoen (Jour. A. M. A., May 20, 1916, p. 1591) traces the stages by which vaccines, which were first employed with attempted scientific control, have come into indiscriminate and unrestrained use, with no guide beyond the statements which commercial vaccine makers are pleased to furnish with their wares. Already most physicians are realizing that the many claims made for vaccines are not borne out by facts, and that judging from practical results there is something fundamentally wrong with the method as at present so widely practiced. As clearly shown by Hektoen, "the simple fact is that we have no reliable evidence to show that vaccines, as used commonly, have the uniformly prompt and specific curative effects proclaimed by optimistic enthusiasts and especially by certain vaccine makers, who manifestly have not been safe guides to the principles of successful and rational therapeutics" (Jour. A. M. A., May 20, 1916, p. 1625).

English Prescriptions.—Bernhard Fantus, professor of pharmacology and therapeutics, University of Illinois School of Medicine, favors the abandonment of the so-called "Latin" prescription. He holds that the usual arguments in favor of the "Latin" prescription are fallacious and points out the advantages of the use of English. He concludes: "By far the most important reason for writing prescriptions in English lies in the difficulty

medical students have in learning the Latin form. To the student prescription writing is a bugbear. When one thinks of the crowded medical curriculum and the comparatively small number of hours set aside for pharmacology and therapeutics, it seems a pity to waste any of it on the acquiring of an antiquated form of expression." In regard to the claim that Latin prescriptions guard a patient from knowledge which might be prejudicial, he replies: "Inasmuch as it is the popular opinion that doctors use Latin in prescription writing to keep the laity in ignorance for selfish ends, it seems high time that we antagonize this idea; and we can do this most emphatically by using English. This we can also do with perfect safety, for secrecy is very rarely, if ever, essential in the practice of the up-to-date physician, who generally prefers to take his patient into his confidence than to keep him in ignorance. Deception is not practiced by the true physician. Therein lies the special difference between the quack and the honest medical man" (Jour. A. M. A., May 27, 1916, p. 1696).

Ichthyol.—The American agent for Ichthyol—the sole importer—announces that his supply of Ichthyol is exhausted. As fraudulent substitutes are offered for sale, this state of affairs should be known to physicians (Jour. A. M. A., May 27, 1916, p. 1734).

Nonspecific Treatment of Diseases.—Evidence is accumulating that certain therapeutic effects ascribed to specific treatment with vaccines or serums, have been due to nonspecific effects produced by these preparations. Jobling and Peterson (Jour. A. M. A., June 3, 1916, p. 1734) review the evidence along these lines. They conclude that too much reliance has been given to the idea of specificity and that we have refused to consider evidence of nonspecific therapeutic results. We should, however, not cast aside all ideas of specificity in disease, a conception which has been the foundation of vaccine therapy. Miller and Lusk (Jour. A. M. A., June 3, 1916, p. 1756) in a paper dealing with one phase of nonspecific therapy, report improvement in cases suffering from arthritis following intravenous injection of typhoid vaccine. It would be of interest to know how permanent the improvement was and in how many cases the cause of the arthritis was found and removed. Also, we must bear in mind the query of Theobald Smith: How much energy does a reaction of this sort cost the patient, and is the final result worth the cost? (Jour. A. M. A., June 3, 1916, p. 1784).

A Case of Beta-Eucain Poisoning.—T. G. Orr, Kansas City, Mo., reports a case of beta-eucain poisoning. Toxic symptoms appeared after an operation in which 3 ounces of a 0.25 per cent. beta-eucain hydrochloride was used for the local anesthesia. After the toxic symptoms had completely disappeared, the patient died suddenly five days later. Necropsy showed an embolus in the left coronary artery (Jour. A. M. A., June 10, 1916, p. 1857).

Efficiency and Nontoxicity of "Arsenobenzol."—Udo J. Wile, Ann Arbor, Mich., reports that during the last six months 612 injections of "Arsenobenzol" from the Philadelphia Polyclinic have been administered at the University of Michigan Hospital. Wile concludes that the immediate therapeutic results from the use of Arsenobenzol are fully as good as those following the use of Salvarsan and that, given with proper precaution, the drug has shown itself fully as little toxic as Salvarsan. The conclusions refer to intraspinal medication as well as to intravenous (Jour. A. M. A., June 10, 1916, p. 1880).

Controlled Clinical Trials.—At the "Cardui" trial, which is now in progress, A. S. Loevenhart, Professor of Pharmacology and Toxicology at the University of Wisconsin, testified as to the conditions under which the clinical trial of a medicine would give results as certain as those yielded by

the usual pharmacologic methods. Professor Loevenhart had testified that he preferred his students to be familiar with drugs, the value of which had been clearly worked out by accurate clinical methods and shown to be useful in the treatment of disease. Asked as to the character of the clinical trials required to demonstrate the value of a drug, he held that there was no difference between a careful clinical test and a careful pharmacological test. Loevenhart explained that to determine if Wine of Cardui had the claimed action an experimenter would take a certain number of cases of amenorrhea, perhaps 50, and divide them into two sets; treat 25 with Wine of Cardui and the others without it and then make an estimate of the amount of the material passed at the time of the menstrual period. Such trials carried out in a hospital, where the physician receives his reports from nurses and is not obliged to depend on the statements of the patients, he explained, would be as reliable as a properly conducted pharmacological experiment (Jour. A. M. A., April 15, 1916, p. 1219).

Diagnosis of Female Disorders.—Manufacturers of "uterine wafers," etc., often advise the use of their preparations without physical examination of the patient when patients are disinclined to submit to such physical examination on the chance that one of the asserted constituents of the proprietary may hit the cause of the trouble. In this connection the testimony of J. Clarence Webster, professor of Obstetrics and Diseases of Women in Rush Medical College, Chicago, in the "Wine of Cardui" case is of interest. He was asked: ". . . Is it necessary to make an examination of the female pelvis in order to determine the condition, the underlying cause of the condition and the treatment which is necessary?" He replied: "It is necessary. . . . Because from symptoms one can rarely have any accurate idea of the pathological condition in the body, in this part of the body. . . . There are many symptoms which are common to different conditions and consequently it is necessary in analyzing a case to make a careful physical examination." Again, when asked "Can you determine, or can the conditions of the uterus, or pelvic organs be determined merely by attention to description of symptoms which a patient gives?" he replied "I cannot" (Jour. A. M. A., April 22, 1916, p. 1337).

Proper Self-Medication.—In the course of his testimony in the "Cardui" trial, John Leeming, M. D., Chicago, explained the extent to which self-medication is to be encouraged. Asked if it was very dangerous for a person who thinks he has a cold to take some aspirin without going to a doctor, he replied that, while in exceptional cases it might be exceedingly dangerous, in most cases of simple cold it would not be so in that Nature's recuperative powers would in most cases throw off such a cold. He explained that he always advises his patients how to treat themselves for simple ailments and to come to him when there are danger signs. Asked if it was dangerous for a person with a cough to get any medicine without a diagnosis, Dr. Leeming replied that it would not be dangerous at all if the person understood his case and in consultation with his doctor he has been generally advised. In families where he is the attending physician he often advises not to send for him in case of a slight cold, but to take a little medicine that will help Nature to throw it off (Jour. A. M. A., April 22, 1916, p. 1330).

What is a "Medical Authority"?—There has been a tendency to look upon publishers of text books as authorities and not to consider a physician as an authority on a certain subject unless he has written a text book on it. That the publication of a book does not prove its writer to be an authority is the opinion of J. Clarence Webster of Rush Medical College expressed at the "Cardui" case, which is being tried in Chicago. Having

referred to Frank Billings as an authority, Webster was asked to define the term "authority." He replied: "As far as a human being can be an authority on anything, I would regard a man who had worked at a particular subject in a scientific manner over a period of time, and who had more experience in that subject than other people, or most other people, as the best human authority that could be found." Asked if a man was more of an authority if he had written a book, Webster replied: "Often less in the eyes of the world" (Jour. A. M. A., April 29, 1916, p. 1410).

Viburnum Prunifolium Inefficient.—J. Clarence Webster, holding the Chair of Obstetrics and Diseases of Women in Rush Medical College, testified in the "Wine of Cardui" case that he gave up the use of fluid extract of viburnum prunifolium because he believed that the benefit that he obtained from its use in pain in association with menstruation, was due to the alcohol in it. He had never had any reason whatever to believe that viburnum was of any value in warding off a threatened abortion. When in cases of painful menstruation he used the solid extract which contained no alcohol, he could not get the same results that he had obtained before and he gradually gave up the use of the drug altogether. Arthur A. Small, senior physician at St. Joseph's Hospital, Chicago, testified of extensive experience with the use of viburnum prunifolium, while resident physician in the Toronto General Hospital. As a result of his experience there he is of the opinion that viburnum prunifolium is of no value in the treatment of female diseases. In these experiments both the fluid extract and the solid extract were used and it was found that the alcoholic solutions would prevent or lessen pain in some cases. In other words, the only action was that of the alcohol. J. B. DeLee, holding the Chair of Obstetrics at the Northwestern University School of Medicine, testified that years ago he gave large quantities of extractum viburnum prunifolium for the prevention of miscarriage, but found it useless (Jour. A. M. A., April 22, 1916, p. 1338; May 13, 1916, p. 1566; May 20, 1916, p. 1639).

When Medicines are not Required or are Useless.—Promoters of proprietary "uterine tonics" would have their preparation administered to girls and to pregnant women whether indicated or not and in conditions where medicines plainly can do no good. The testimony of E. E. Montgomery, Professor of Gynecology at Jefferson Medical College, Philadelphia, in the "Cardui" trial forcibly brings out the objections to the indiscriminate administration of medicines to girls and women and the futility of their use in cases which need surgical attention. Regarding the administration of "tonics" to girls at puberty he said that to advise a girl who is undergoing a physiological process that she must take some medicine which contains alcohol or any habit-forming drug at this period of her life, which is the most impressionable period of her existence, is doing that which is placing her future in peril, and is without any possible benefit. Regarding the administration of a "tonic" such as Wine of Cardui is supposed to be, he testified that it can do nothing but harm; that a woman because she is pregnant, pregnancy being a physiological process, does not need medicine, but needs attention. Regarding the use of medicines in uterine prolapse as a means of strengthening the unstriated muscle and thus to help the muscle to perform its work to hold the womb in place, Dr. Montgomery explained that the unstriated muscle in the woman is not likely to be affected by medicine and that the tissue outside the womb is unlikely to be affected by medicine; to give medicine in the case of a woman who has prolapsus is just about as reasonable as to bathe one's suspenders with a solution when the elastic tissue has been destroyed from them (Jour. A. M. A., May 6, 1916, p. 1481).

REVOKED CERTIFICATES.

Supplement to Directory of Licentiates Issued June 1, 1916.

Baker, Charles R., revoked December 7, 1914.
 Carleton, Charles H., revoked July 31, 1911. Convicted of violation postal laws, mailing matter re abortions.
 Chamley, S. R., revoked December 15, 1915.
 (Condory, Vilmas, suspended for one year from January 11, 1916).
 Crocker, H. B., revoked June 15, 1914.
 Edwards, Homer C., revoked December 15, 1915.
 Freeman, Gideon M., Sr., revoked April 12, 1915.
 Grosshauser, F., revoked April 7, 1909. License procured by fraud.
 Hunt, A. L., D. O., revoked April 16, 1915.
 Huntington, Ralph, revoked April 7, 1909. Convicted of manslaughter.
 Lee, B. Brooks, revoked August 4, 1908. Convicted under alias of R. Brook Sterling violation postal laws, mailing matter re abortion.
 Meadows, L. H., revoked December 23, 1905.
 Sherrod, L. L., revoked December 21, 1906.
 Thornburg, H. T., revoked December 2, 1912.
 Watson, C. P. V., revoked June 15, 1914.
 Williams, N. W., revoked December 2, 1912.
 Wilson, H. McGregory, revoked December 23, 1905.

A NOTABLE PATENT MEDICINE SUIT.

The outcome of a recent suit for damages claimed by a proprietary medicine concern from the American Medical Association, which through its Journal had unfavorably commented upon the curative and other claims for this preparation, may serve as an illustration of the present ethical status of the medical profession as well as of the high standard maintained by the American Medical Association, which represents the best interests of the public.

The verdict giving to the nostrum owners one cent damages, though a technical and legal defeat, is in fact a moral victory for the association. The verdict is remarkable when the fact is considered not only that the association had to defend itself against the assaults of its avowed enemies but that members of medical societies, among them actually fellows of its own organization, appeared as witnesses for the prosecution. It is remarkable under these circumstances that a lay jury dealt so kindly with the defense.

That doctors differ is proverbial, but that they should disregard the interests of their own association, which aims to protect the public against abuse of secret remedies that lay, as we have shown, an enormous money tribute upon them, besides the loss of health and life from neglect of the early stages of disease arising from trust in the representations of the manufacturers, is remarkable. The motives of these doctors are not impugned. But their action does shake public confidence in the value of drug treatment.

The Journal of the American Medical Association says truly in its number of July 15: "The association has the support, numerically and intellectually, of the profession and is rapidly gaining the support of the public." The Sun has recognized the former and has endeavored to further the latter. The Association's work is in fact primarily in the interests of the lay public, for its function is to protect the innocent from the menace of quackery and the danger to health and life from faith in the unfounded, misleading and frequently false promises and claims of charlatans.—New York Sun, July 25.

INDUSTRIAL WELFARE NUMBER OF "THE MODERN HOSPITAL."

The August number of "The Modern Hospital," St. Louis and Chicago, is devoted to a symposium on welfare work among the industrial corporations of the country. There are editorials by those competent to write on this important subject, a great number of papers written by welfare directors in some of the most important industrial corporations, and an immense amount of statistics and figures and facts showing the huge volume of work that the corporations are doing to protect their employees against sickness, accidents, and discontent. The journal contains many illustrations of first aid stations, emergency hospitals, and welfare departments of industrial plants, and many facts that should be of great help to those interested. Among the topics discussed are those of first aid, industrial nursing, lunches and diets for industrial employees, safety devices in factories, and athletic and social clubs for employees. The editors frankly state that they have been unable to obtain figures as to cost of welfare work in the industries, but a number of writers attempt to make deductions and draw conclusions from their experiences of the past few years.

THE PHYSICIAN'S HEALTH AND ACCIDENT INSURANCE COMPANY OF CALIFORNIA.

The following matter has been contributed by a gentleman, a member of the Society, who does not wish to have his name attached to it but who wishes it offered as a subject for discussion by the members of the society. Anyone taking an interest in this plan or proposition is requested to write to the Journal in regard to it.

There are approximately 6500 registered physicians in the State of California and a part of them are doing the work required by the State Accident Insurance Company and several private insurance companies doing business in this state, and the stockholders of these private insurance companies are receiving large dividends on their stock, which shows that the insurance business is a good paying business.

We as a profession will soon be confronted with health insurance, which will also call for our co-operation and acceptance of small fees for our services. Would it be advisable to organize an insurance company, to issue policies both of health and accident insurance, organized and incorporated for such purposes by the medical fraternity of the state?

The plan which I would suggest, would be to issue one share of stock to every physician in the state, at one hundred dollars a share, which would give approximately six hundred and fifty thousand dollars as a paid in capital, and adopt the prevailing schedule of prices for medical and surgical services as are now being, or may hereafter be used by the companies doing business in this state, and allow each physician for his services according to such schedule of fees. In this way the profits of the business would revert to the medical profession and every member of the insurance company would be eligible to perform such services as would be needed in cases coming under the company's policies. The details of organization of such a company would all have to be worked out on a scientific insurance basis.

The important question to be decided is, whether the medical profession of California will organize such a company and thereby receive the profits of such, or shall they continue to contribute their services to private insurance companies and allow the profits from their services to go to the stockholders of such private companies?

There is no doubt but that the inauguration of health insurance in this state is a matter of a few months, and it will be just as stable and just as arbitrary in fixing the fees for the medical services

rendered as the accident insurance companies have been. I would suggest that the Journal of the State Medical Society publish this and request each registered physician of the state to write to the Journal expressing their sanction or disapproval of the organization of such a company and whether they would subscribe for one share of stock in case the plan is sanctioned by enough physicians to make it a feasible working plan.

MEDICAL PREPAREDNESS LEAGUE.

A course of instructions under the auspices of the Medical Preparedness Section of the County Medical Society, every Thursday from 4:30 to 5:30 p. m., for fourteen weeks, beginning September 7, 1916, at the County Medical Library, Butler Building.

This course is similar to the one outlined by Major Chamberlain, Medical Corps, U. S. Army, for Harvard University.

This course will give the practicing physician an opportunity to become familiar with Medico Military matters. Every man who desires to increase his knowledge, to improve his efficiency in case of war, should attend.

The section has interested military men who are stationed in the vicinity of San Francisco, and has the approval of the Surgeon General, office at Washington, D. C.

Schedule for September 7, 14, 21 and 28.

1. The Organization of the Army: Line and Staff, and the "Administrative Zones" in War, Major John W. Hanner, Medical Corps, U. S. Army (30 minutes).

Synopsis: Composition of Land Forces; the Mobile Army, and the Coast Artillery. Present peace strength authorized: present war strength authorized. Line: Regiments, Brigades, Divisions, Field Armies, Armies. Staff: General Staff, Adjutant General's Department, Judge Advocate General's Department, Quartermaster Corps, Medical Department, Corps of Engineers, Ordnance Department, Signal Corps. The service of the Interior: The service of the theater of operations; (1) Zone of line of communication, (2) Zone of the advance.

Discussion opened by Colonel Guy L. Edie, Medical Corps, U. S. Army (five minutes); discussion closed promptly on the hour.

2. The Sanitary Service of the Premobilization Period, Major G. DeVoe, Medical Corps, U. S. Army.

Synopsis: A. Examination of individual soldiers, physical, mental, laboratory. B. Prophylactic treatment for smallpox and typhoid; for venereal diseases. C. Communicable diseases: diphtheria, meningitis, etc., diagnosis, isolation, carriers. D. Water and milk supply; disposal of excreta and wastes.

Discussion opened by Dr. Benjamin Jablons.

3. Diseases of War: their Prevention, Control and Treatment. Major Lloyd L. Smith, Medical Corps, U. S. Army.

Synopsis: Losses from sickness in the wars of the past century. Factors determining the high rate of sickness in war. Infectious diseases of the intestinal type; other diseases of interest. Preventive and remedial measures for dealing with disease in war.

Discussion opened by Dr. J. Wilson Shiels.

4. Medical Supplies and Equipment. Colonel Henry I. Raymond, Medical Corps, U. S. Army.

Synopsis: Supply Tables of Manual for Medical Department, 1916. Post, Dental and Field supplies. Equipment "A," "B" and "C." Sera and vaccines, how obtained? Field supplies held in custody of Regimental Surgeons in time of peace, what? "A Medical Reserve Unit." Base and Advance Medical Supply Depots. Field supplies for sanitary formations in the zone of operations. Individual equipment, Medical Officer.

Discussion opened by Major Morrison C. Stayer, Medical Corps, U. S. Army.

NAVY SURGEONS.

The next examination for appointment in the Medical Corps of the Navy will be held on or about October 23, 1916, at Washington, D. C.; Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; Norfolk, Va.; Charleston, S. C.; Great Lakes (Chicago), Ill.; Mare Island, Cal., and Puget Sound, Wash.

Applicants must be citizens of the United States and must submit satisfactory evidence of preliminary education and medical education.

The first stage of the examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects: (a) anatomy, (b) physiology, (c) materia medica and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics.

The successful candidate then attends the course of instruction at the Naval Medical School. During this course he receives a salary of \$2000 per annum, with allowances for quarters, heat and light, and at the end of the course, if he successfully passes an examination in the subjects taught in the school, he is commissioned an assistant surgeon in the Navy to fill a vacancy.

Full information with regard to the physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

The foregoing information is furnished as it is believed that it is of interest to you, and that you will want to give it some notice in your Journal.

Very truly yours,

W. C. BRAISTED,
Surgeon General, U. S. Navy.

NEW MEMBERS.

Hyde, O. C.—Lincoln.
Lane, J. A.—Ferdale.
Bishop, T. W.—Los Angeles.
Jacobs, Edward H.—Los Angeles.
Duncan, Rex D.—Los Angeles.
Richter, Louise M.—Los Angeles.
Blanchar, Wm. Otis—Los Angeles.
Clark, W. S.—Los Angeles.
Hoag, E. B.—Pasadena.
Athon, L. H.—Los Angeles.
Beach, Everett Chas.—Los Angeles.
Sisson, Charles E.—Norwalk.
Barrow, Jno. V.—Los Angeles.
Bogue, H. E.—Los Angeles.
Hubbard, Clinton D.—Huntington Park.
Roen, Paul B.—Hollywood.
Syer, Wm. Henry—Los Angeles.
Turner, James Henry—Huntington Park.
Charlton, Cecil Floyd—Los Angeles.
Outlaw, John S.—Los Angeles.
Creamer, Michael S.—Los Angeles.
Conlin, B. M. J.—Long Beach.
Evans, C. L.—Los Angeles.
Kirkpatrick, J. L.—Los Angeles.
Brown, Blanche C. B.—Los Angeles.
Hughes, H. W.—Los Angeles.
Jackson, J. Addison—Hollywood.
Sugarman, Herman—Los Angeles.

DEATHS.

Painter, Geo. L.—San Francisco.
Milton, Joseph L.—Oakland.
Eads, E. E.—Los Angeles.
Callaghan, Daniel T.—San Francisco.
Wilson, Andrew P.—Los Angeles.
Wise, Kenneth D.—Los Angeles.
Burt, L. W.—Lancaster.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Harry E. Alderson, M. D. René Bine, M. D.
Wm. P. Lucas, M. D. Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman
Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - - - Butler Building,
State Journal, - - - San Francisco.
Official Register, - - -

Telephone Douglas 62

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV OCTOBER, 1916 No. 10

EDITORIAL NOTES

INDEMNITY FUND.

Do not allow the opportunity of participating in the Malpractice Indemnity Fund to escape you. The whole plan in detail was printed in the July JOURNAL. Briefly put, it is that if three hundred or more members participate, a trust fund will be created, out of which fund settlements out of court, or the payments of judgments against such contributing members will be met. This gives you, in addition to the defense protection of the State Society which every member naturally has, complete financial protection, and the Lord knows you need it! If three hundred members will each send in their check for \$15.00, and promissory note payable one year after date for a like amount, the fund will come into existence and the plan be put in operation. Since the first of the year hardly a week has passed in which a member has not been sued, and not a single day has passed in which some manner of complaint, suit, threat, or correspondence relating to these matters, has not gone through the office of the Society. We figure that if enough members will come into the fund, assessments will be required not oftener than every four or five years, and thus our members can practically carry their own insurance at a minimum cost and at a cost very much less than that of insurance in any indemnity company.

ANNUAL MEETING AT CORONADO.

The next annual meeting of the State Society will be held at Coronado, and as there will be ample accommodations under one hotel roof for at least five hundred, we may have no anxiety as to lack of accommodations. We are advised by the secretary of the committee in charge, that a large assembly hall will be provided for the general meetings, and rooms enough for sections meeting at the same time within the hotel itself. The local committee of arrangements desires to have the meetings held as early in the day as possible so as to secure a good attendance, and allow time in the latter part of the day for the delegates and visitors to take some recreation and see the many beautiful things to be seen in the vicinity of Coronado and San Diego. The meeting will be a very important one and our members should begin now to plan to attend it without fail. Undoubtedly the many questions connected with the changing conditions in medicine due to legislation, will come in for considerable discussion.

IMPORTANT NOTICE.

The Committee on Scientific Work wishes to call the attention of the members of the Society to the necessity of sending in early the titles to papers which they wish to present at the Annual Meeting to be held in April. Each year makes it increasingly difficult to include in the program the number of papers which are presented. It is therefore of importance that those intending to present papers notify the office at the earliest possible moment.

In order to avoid criticism and in order that there may be no feeling that injustice has been done any one, we wish to call attention to certain rulings that have been made by previous committees and which will be strictly adhered to in future.

First: No author will be allowed more than twenty minutes for reading. Papers requiring more than twenty minutes may be condensed at the time of delivery and, if of sufficient importance, will be printed in full in the JOURNAL.

Second: No paper will be "Read by Title." Those on the program who fail to appear to read the papers promised will, unless a satisfactory reason can be shown for such delinquency, be penalized by being refused a place in the program for three successive years.

In addition the following rule has been voted upon and unanimously adopted: Each author whose paper is to appear on the program must place in the hands of the secretary, before January 1, 1917, a short synopsis of his paper which will indicate the principal points to be discussed by him. This synopsis will appear on the program beneath the title of the paper. This is not an arbitrary or untried innovation but a custom sanctioned and adopted by the American Medical Association. It has been tried and found to be of great benefit. Authors who comply with this ruling will be given preference over those who do not supply such synopsis. Address either Dr. A. B. Grosse, 162 Post St., San Francisco, Chairman, or Dr. R. A. Peers, Colfax, Secretary.

SOCIAL INSURANCE.

Physicians, after all, are merely human beings, and as a rule they act and behave very much as other human beings do. When we see that large numbers of business men have never heard that there is a State Commission for the Study of Social Insurance and have no idea what it means, what it purports, or what the object of it is, we need not be surprised that large numbers of physicians also do not understand what is going on. Indeed, many of those who are actively participating in the new sociologic experiments do not themselves realize the extent of the movement or the far-reaching changes that are having their origins now. Many of the states in this country are, by statute and constitutional amendment, creating revolutionary sociologic conditions; bringing into existence in the space of a few months or years absolutely radical conditions and such as in other countries it has taken generations to develop. No wonder there are differences of opinion; no wonder there are innumerable petty complications and contradictions of more or less importance. To begin with, the whole question is susceptible of division into two absolutely distinct lines of thought and opinion: Shall the human race develop in its own unrestrained, untrammelled way, except for necessary police regulations? Or, on the other hand, shall its course of development be artificially changed, altered and modified by sumptuary legislation which really has its basic origin in the fundamental idea of paternalism? Who can possibly answer the question: Is social insurance in all its forms of benefit or not? Perhaps at the end of one or two centuries some one may be able to answer correctly the question, but no one at the present time can do more than express an opinion or conjecture.

INDUSTRIAL ACCIDENT INSURANCE.

In the matter of industrial accident insurance, which has been with us for something over two years, we find many things of great interest. One class of physicians are violently opposed to the whole thing. Another class are all indifferent. Another class realize that a large amount of work done by the medical profession which heretofore was never paid for, is now being paid for in a degree and to an extent which seems, or at least is intended to be, commensurate with the earning capacity of the individuals treated. We hear frequently that the medical profession as a unit should resent the impertinence of outside persons or bodies fixing the rate or amount of medical fees; that all such legislation is a great injury to the medical profession and that we should stop it or control it. Those who speak in this way fail to consider the fact that there are approximately five thousand physicians in California as against about two million citizens. Whose rights or whose welfare shall be considered the most important? It seems to stand five thousand to two million, which is a bit disproportionate. The legislature, listening to the voice of the whole people of the state who, in order to permit the

legislature to carry out their wishes changed the very constitution of the state itself, look upon the question of industrial accident insurance in an entirely different way from the medical profession. Few medical men are students of sociology in general. Under former conditions the injured workman had his right to an action at law against his employer, but the records show that he seldom got much if any ultimate compensation, and then only after long and expensive litigation. It was the object of the people and the legislature to remove all such cases from the class of possible litigation and to make sure that the injured workman would receive care and attention and at least some compensation.

CHANGES IN MEDICINE.

"Medicine," using the word in its broadest sense, as a profession, calling or occupation, is changing very rapidly; more rapidly than most of us believe or understand, and so rapidly that many physicians resent the results of the changes without realizing their cause or their import. The tendency is toward State Medicine. Within the profession itself we see the same tendency. The development of refined methods of diagnosis, requiring skilled men in different lines of specialized activity, has brought about without its being realized what has been called the "group plan" of practising. Such groups of physicians are in many cases united on a thorough business basis, and are conducting the professional work of the group just as, since time immemorial, groups of business men have been conducting their commercial activities. The support by Congress of the Public Health Service, its increased activities, and the enlarged range of its functions and duties, is a distinct evidence of the subconscious appreciation of State Medicine by the people of the whole country. The fact that one of the oldest states in the Union, Massachusetts, and one of the younger children, California, have both, through their legislatures and by appropriations, undertaken the careful study of social conditions with a view to possible health insurance, is a remarkable illustration of the fact that the idea of State Medicine has taken firm grasp of the minds of the people whose training, environment, and method of thought are so different as those of the old colony of Massachusetts and of the western state of California. Wherein does the slightest good prevail for a handful of men following a special calling, living rather narrow lives, to rail at such changes and say that the growing desire of the whole people is wrong? Economically, the sick wage-earner is a burden on the whole community. Economically, it is to the financial and social interest of the state to see that its wage-earners are, in so far as possible, kept from being sick, or given the best possible care and attention when they become sick. This broad economic truth studied in connection with the group method of practise (which originated in the medical profession itself) is a pretty clear pointer in the direction which future sociologic legislation will taken.

HEALTH INSURANCE.

A good many members, judging from the letters which we have received, do not seem to realize that the medical profession and particularly the Medical Society of the State of California, have been in close touch with the State Social Insurance Commission practically from its very beginning. A very active committee of the State Society, of which Dr. René Bine of San Francisco is chairman, has been in constant touch with the Commission and with a number of other bodies which are all working earnestly and conscientiously together for the same purpose; first, to find out existing facts, and second, to suggest a proper method of bettering them. We need none of us have any anxiety over the possibility of hasty or ill considered legislation. In the first place, a constitutional amendment will probably be required before any legislation creating health insurance can be adopted. In the second place, from the very manner in which the Commission is studying the situation, it is apparent that the utmost consideration is to be given to the medical profession in considering the fact that its services are fundamentally essential to carrying out any plan of health insurance. Do not let us waste time or energy in thoughtlessly clamoring to oppose all such legislation. Such an attitude is worse than useless. It not only is useless, but it creates an antagonism instead of stimulating cooperation. Every county society in the state should give these matters the most careful thought and attention, and should in every way possible urge upon our members the necessity for cooperating with the committee of the State Society and with the State Commission in the study of this problem.

IDENTIFYING RECORDS.

This time we do not refer to the records which a physician keeps, or should keep, but to the records which are being accumulated in the office of the State Society. We wish to have all the information about physicians located in California that it is possible to collect. We desire very much both a photograph of every physician and a specimen of his handwriting. It would astonish you to know how often this office is called upon to identify some particular physician, or to give some information in regard to him. Hardly a day goes by that this is not the case. In San Francisco a photograph studio offered to take a photograph of any physician free of charge and to furnish us with a copy free of charge. We therefore wrote a letter which this studio sent out, setting forth these facts. Of course, if the physician who has his picture taken likes it and orders some, the studio makes its profit, and this is the reason for their willingness to do the work. There is no compulsion, however, and no one need order any pictures if he does not wish to. However, any photograph will do and if you have one of yourself that you can spare we will highly appreciate your courtesy in sending it to us, with your autograph on the back. Last year we spent nearly six weeks trying to identify the handwriting of a certain physician in a matter of considerable legal importance and advantage to him. Please help us all you can.

HOSPITAL CHARTS.

If some one will kindly explain to the editor why it is that hospital charts, and charts used for bedside notations by physicians in private practise, are printed in blue and purple ink, his courtesy will be greatly appreciated. Over and over again papers are sent in for publication with such charts attached, and over and over again the charts are returned to the author with the statement that it is impossible to reproduce them. Blue and purple ink will not photograph, and the entire chart must either be re-drawn in India ink, or not used at all. Would it not be possible for hospitals, and those physicians who use these ruled bedside charts, to have them printed in black, in which event they could be easily reproduced?

STANDARD LABORATORY TESTS.

The increasing doubt with which laboratory tests are met by the general practitioner has become a source of dissatisfaction to laboratory workers, so much so that clinical pathologists realize that this incredulity must be met and overcome if the clinical pathological laboratory is to retain its place in the "sun" of medical practise.

A scientific test is one in which the personal equation has been obviated to a minimum. The same ingredients prepared in the same manner, and added in the same way, should give a standard result. The discrepant results obtained by different laboratories seeking for a similar contingency prove that "scientific" medicine is not yet scientific.

There has been a general trend towards overcoming this difficulty by associations of workers in this special field, who by means of congresses and symposiums have attempted to reach some common ground of understanding.

While this lack of uniformity in laboratory tests extends to practically all of the clinical methods employed in the diagnosis of diseases, there is no one test that has fallen into as much disrepute because of this, as the Wassermann test for the sero-diagnosis of syphilis. The Wassermann test has proven its value despite the numerous modifications and despite the many discrepant results, so that to-day a discrepant result is no longer attributed to the test, but to the lack of knowledge or poor technic on the part of the laboratory worker. It behooves, therefore, the laboratory worker to make sure that he is not lacking in any one of these requirements. There is no doubt, however, should an inquiry be conducted on this subject, that each laboratory worker would insist that his method is the method of choice, and yields reliable results. It is manifestly impossible, and it is not advisable that any one man's opinion be accepted as to the validity of the method he employs.

The California State Medical Society would do well to set an example in this regard by appointing a committee of serologists who could as a result of an investigation of the methods in current use in reliable laboratories, arrive at a conclusion as to the method yielding the most satisfactory results. They should then recommend this standard method and certify all laboratories in which this method is employed. Only in this way could

reports from different laboratories be of value. This would do away with the frequent repetition of blood tests to add to the greater confusion of the attending physician, with the consequent expense to the patient who in many instances is ill able to afford this.

This could ultimately be extended to other tests, but at the present time the crying need for exact knowledge on this subject could be met to the gratification of both patient and physician alike.

THE PAYING OF THE OLD MORTGAGE ON ST. LUKE'S HOSPITAL.

Some five years ago St. Luke's Hospital was changed from an institution occupying some old and shabby wooden buildings to one housed in a modern hospital building, with a modern hospital equipment. This was a great step forward, and was made possible by gifts by Mrs. Louis F. Monteagle, Mrs. Whitelaw Reid and Mr. Ogden Mills. The donations, however, carried no endowment, and the type of the hospital did not change, its revenue continuing to come chiefly from the board-money of the patients. Moreover, the hospital was carrying a mortgage, incurred in 1902 to permit the erection of a surgical pavilion, which was quite wrecked by the earthquake, and the asking for endowment while the indebtedness existed was found to be impossible. The original sum borrowed had been \$50,000.00, and this had been reduced by 1910 to \$32,000.00 by payments from hospital earnings, but there it stuck, and the interest charges were a heavy burden on the hospital resources, and stood in the way of much development that was sorely needed. The total amount of interest paid had, in fact, amounted to more than the final amount of the mortgage; that is, more than \$32,000.00. The result, therefore, was that the hospital was working for a bank instead of for the church.

Realizing that a hospital run for revenue was not the type of a church hospital, nor the kind the donors of this were really interested in, they started a subscription—themselves again giving large sums—and have paid off the entire amount. The subscribers were: Mrs. Louis F. Monteagle, Mrs. Whitelaw Reid, Mr. Ogden Mills, Mr. William H. Crocker, Mr. George Pope, Mr. W. B. Bourn, Mrs. William H. Crocker, and Mr. Louis F. Monteagle.

St. Luke's Hospital now stands clear of any debt, every cent earned by it or given to it going for support or betterment, and endowment can be asked, so that in time half the beds in the hospital shall be free, and that charity, which is the Church's only excuse for having a hospital, shall be easily possible.

This will put the hospital in the same class with other hospitals of the same name in other cities of the United States, and make it one which shall be productive medically, and so contributory to medicine, as well as the almoner of the Protestant Episcopal Church in America.

STATUTE OF LIMITATIONS.

Referring to an editorial in the September issue, headed "Careless Doctors," a correspondent writes for an explanation of the apparent conflict in the matter of the running of the statute of limitations. Under the Industrial Accident Law the physician's claims must be presented within six months or be outlawed. Under the code, an open or book account does not outlaw for four years. Our correspondent wishes an explanation of this apparently anomalous condition. The explanation is simple. The constitutional amendment and the act of the legislature creating the Industrial Accident Commission and outlining its jurisdiction and its activities, took the whole subject out of the range of the general law, or the code of California, and placed it in the hands of the Commission. All those code provisions and general laws which otherwise apply to such things, do not apply when they come within the territory of the Workmen's Compensation Act. Moreover, by the constitutional amendment and by this act, the courts of the state are prohibited from having any voice in any matters arising under this law, except on the one point of a review of the acts of the Commission to determine whether they have acted within or without the authority and the limitations of the act itself. This is one reason why, owing to the absolutely new condition of things, many differences in rulings and many complications have arisen, are arising, and necessarily will continue to arise for some time to come.

BRIEF FOR HEALTH INSURANCE.

A death rate for American wage-earners twice that of professional men; the prevalency of high sickness rates; the need among workers of better medical care and of a systematic method of meeting the wage loss incident to sickness; and the necessity for more active work in the prevention of disease, are the corner-stones of the case for compulsory health insurance presented in the brief just published in New York by the American Association for Labor Legislation. This situation, it is pointed out, cannot be met fully by existing agencies, and can only be properly remedied by a system of health insurance embracing all wage-earners and dividing the cost among employee, employer and the state.

The great amount of sickness in the homes of the poor causes an average loss by each wage-earner of nine days a year, and involves annually a national wage loss of approximately \$500,000,000. Notwithstanding the greater prevalency of tuberculosis among wage-earners, their early susceptibility to the degenerative diseases of middle life, and the excessive death rate among the industrial population, workers often are unable to secure the medical attention they require. In Rochester, New York, it was found that 39 per cent. of the sickness cases were not under a doctor's supervision; in a city like Boston, Massachusetts, one-fourth of the population, it is estimated, are unable to pay the fees of a private physician.

The lowered vitality and the poverty created by

present day conditions it is claimed can only be checked by a system of health insurance, which for a small sum divided among employer, worker and state, will bring medical care to the wage-earner and his family, will assure for a maximum of 26 weeks in a year a weekly payment of 2/3 of wages during the breadwinner's illness and in addition a small benefit should he die. "Compulsory health insurance," concludes the brief, "is an economical means of providing adequately for the sick wage-earner, and will prove a mighty force for the inauguration of a comprehensive campaign for health conservation."

POLIOMYELITIS.*

Thanks to the efforts of Flexner and his co-workers Lewis, Draper, Dochez, together with many others, we have attained a real knowledge of the etiology and natural history of poliomyelitis. In the realm of therapeutics, however, progress up to now has been insignificant. The fact that a very positive immunity is conferred by one attack is foundation for the belief that the development of a curative serum ought to be within the bounds of the possible. Numerous attempts to produce such serum have been made without success; it has been impossible to infect any experimental animals other than monkeys and for the production of immune sera Rhesus Maccacus is impossible.

In recent years the idea of immunizing against some of the unknown viruses such as epidemic parotitis and measles by injecting into contacts the blood serum of patients recovered from the disease, has taken hold and there are in the literature several reports which indicate that a measure of success has followed a trial of this method. Flexner and Lewis demonstrated that the immune sera both from monkeys and humans were therapeutically powerful when injected sub-durally and would protect animals inoculated with a potent virus, while normal serum had no protective powers.

Developing these ideas, Armand Netter has utilized the recovered poliomyelitis patient as a source of curative serum to be used in the treatment of infantile paralysis. He withdraws the blood from a vein, separates the serum and injects from 20 to 40 c.c. into the spinal canal after lumbar puncture and the withdrawal of a like amount of spinal fluid. Netter's reports encourage the hope that at last we have a remedy for this disease that is truly of value. His method is simple, harmless and efficacious and it should receive extended trial by the profession. In the French physicians' trials, success followed the use of serum taken from patients who had had infantile paralysis even so long ago as thirty years.

In order that the method may have a trial in San Francisco the County Medical Society has decided to circulate its members asking them to

aid in the preparation of a list of immunes who would be willing on request to supply blood for the treatment of acute cases. Such donors need be known only to their personal physicians and so could be spared unpleasant notoriety. As a matter of course donors would be submitted to the Wassermann and other essential tests. The plan contemplates that each member of the Society shall endeavor to obtain from an individual who has recovered from poliomyelitis the promise that he will act as a blood donor on request of his physician. When he has obtained the promise the physician will communicate the fact to the secretary. The secretary shall keep a list of members who are in touch with prospective donors and shall supply such a list to any other member on request. It will thus be relatively an easy matter to obtain serum promptly for the treatment of an acute case, and prompt treatment is half the battle.

Sophian has reported the use of normal horse serum as an intra-dural injection in the acute stage of poliomyelitis. He is encouraged by his results, which he thinks as good as those which followed a limited trial of Netter's plan of using immune human serum in the same way.

More recently Meltzer has suggested the use of intra-dural injections of adrenalin chloride. He advises that 2 c.c. of the 1 to 1000 solution be injected every four to six hours until the fifth or sixth day after all paralyses have disappeared. In his contribution "The Treatment of Acute Poliomyelitis," which appeared in the *New York Medical Journal*, August 19th, 1916, Meltzer states that this plan of treatment has been tried at the New York Throat, Nose and Lung Hospital with results that at least prove that adrenalin used in this way is harmless. The rationale of this suggested treatment rests upon the distinction Meltzer draws between inflammatory foci and inflammatory areas peripheral to the foci. These areas consist for the most part of zones of edema and hyperemia of a transitory nature. It is his idea that the pathological process involving the vital centers in the nervous system is not always a destructive one but one based upon an edema and hyperemia that it may be possible to disperse by the use of adrenalin in intradural injection.

Meltzer also urges the use of his intrapharyngeal insufflation apparatus when there is threat of asphyxiation during the acute stage of poliomyelitis. Observations on monkeys infected with the disease, made during the stage of asphyxia, convince him that "in cases with paralysis, death is due to a respiratory paralysis from an involvement of the origins of the chief respiratory nerves (phrenic and brachial plexus) while in encephalitic poliomyelitis the vasomotor center may be the first vital point which becomes paralyzed," should the centers escape destruction, but be involved by hyperemia and edema. It is possible that an efficient method of artificial respiration might keep the patient alive until the adrenalin dispersed the edema and hyperemia and aided the centers to attain normal function, and for this Meltzer's advice seems sound and worthy of attention.

* 1. Flexner & Lewis: Jour. A. M. A., Aug. 20, 1910.
2. A. Netter: Arch. de med. d. enfants, Jan. 16, 1916.
3. Sophian: Jour. A. M. A., Aug. 5, 1916.
4. Meltzer: New York Med. Jour., Aug. 19, 1916.

ORIGINAL ARTICLES

INFECTION-PSYCHOSES AND THE SYMPTOM-PICTURE OF MENTAL CONFUSION.*

By A. W. HOISHOLT, M. D., Medical Superintendent,
and W. T. HARRISON, M. D., Pathologist,
Napa State Hospital.

Mental confusion as a disease-picture or syndrome is met with almost as frequently as the symptom-complex of mental depression or melancholia. As a disease-picture it is very striking and easily recognized, which is the reason why the layman always agrees that the person who is confused and talks disconnectedly must be crazy, while he rebels against considering the man really insane who is only despondent or elated. Mental confusion has been for ages the ideal landmark of insanity to dramatists and poets, and it has been portrayed on the stage with more or less success. One of the best portrayals of this kind that I have seen was the masterful acting of Mansfield in the closing scene of *Beau Brummel*.

The chief element in mental confusion is the incoordination in the sphere of ideas which resembles the incoordination observed in motor disturbances. Here the motor impulse results in a limited excursion of the paretic muscles, while the intact muscles show an over amount of energy by reason of irradiated force. This leads to the development of irregular uncontrollable muscular action, with inadequate joint motion, as we see it in real ataxia.

In the same way may the incoherency in ideas be dependent upon paretic or weakened idea associations, as in confusion that is connected with demented states which in extreme cases may make the incoherency in conversation sound like a jargon, termed "word-salad" by the humorous French psychiatrist, Forel. The incoordination as we see it in confusion may, like the incoordination in ataxia, from an overbalancing of intact muscles, originate from a morbid increase in the rate with which idea associations are formed, so that each idea starts its associations before the one preceding it has had time to react.

Another important element in confusion is enfeeblement of apperception. The patient grasps the situation only to a slight extent. One may for a moment catch his attention, getting usually a more or less wrong answer to the question put to him, but he soon again pursues his incoherent train of thought. The apperception may not only be weakened, but it is usually also perverted—objects and persons have a changed appearance which is sometimes horrible or antagonistic, sometimes may seem comical. The objects are seen in a particular light or color—sometimes in all the colors of the rainbow—everything seems so peculiar to him that he is perplexed. "He doesn't know what it all means." "Everything seems changed; something is wrong, but he doesn't know what it is." He misjudges his surroundings and frequently says they are making fun of him.

This ushers in the development of the symptom which dominates the picture, namely, the hallucina-

tions. To the functional weakness of the cortical activities become added an enormous increase in the work done by the sensory centers which leads to confusion and lack of orientation, so characteristic of mental hallucinatory disturbances of this kind. The activities of the sensory centers bring about imaginary impressions, rendering it difficult for the patient to bring order and coherency into the contents of consciousness. It is not always easy to ascertain the existence of hallucinations in severe forms of confusion; a loss of orientation and a befogged sensorium, associated with incoherent speech, are in themselves, however, an evidence of confusion. In cases where the sickness has begun suddenly and with great intensity, the delirium is especially wild in character; in other cases, however, the hallucinations may develop slowly and more gradually and may lead to building up of delusions, which do not bring about definite changes of the personality as we meet with in paranoia.

The hallucinations are numerous and kaleidoscopic in these forms of confusion. The patient sees faces and figures, angels and religious revelations, murderers; may see snakes and other animals in the bed, or he may experience an elementary hallucination of thinking himself surrounded by fire. He hears persecutors outside his door threatening to shoot him; he hears the reports of guns and the noise of fights in which people are being killed. The sound of music comes from above, mingled with voices—the voice of God giving him promise of eternal life, etc. Sensory hallucinations may be experienced in the form of feeling the movements of the ship which he has boarded or he feels himself propelled through the air. He is being charged with electric currents or feels knives cutting through his skin. Sometimes hypochondriacal ideas based upon organic hallucinations may be present; the beating of his heart has stopped; his bowels are choked or he may feel scorpions in his stomach, or snakes under the skin. The other senses may likewise be involved: poisonous gases pouring into his room, the atmosphere smells of chloroform, he may taste poison in his food, etc.

Fallacious ideas based upon the hallucinations are, like the latter, very fleeting, numerous, changeable, and fantastic. He may think that he is to die, to be cut to pieces or otherwise tortured, hearing the subject discussed outside the door. He may be in fear that his family will suffer the same fate. On the other hand, the delusions may be of a pleasant nature, hearing the voice of God and coming to the conclusion that he is the Son of God, or that she is about to marry the son of a millionaire, etc. At times the delusions take the form of imperative ideas, which may even be recognized by the patient as incorrect or morbid, but of which he cannot rid himself. The mood is entirely dependent upon the character or contents of the illusions or delusions, and, it changes with them from one extreme to the other. Whenever the patient is not especially influenced by his perverted sense-perceptions, the mood is usually apathetic. The emotional changes, like the delusions, are reactive, not primary.

* Read before the Sacramento Society for Medical Improvement, March 18, 1916.

The patient's manners and acts are dictated, as it were, by his hallucinations and delusions as well as by the resulting emotions; and the behavior, therefore, is apt to change every minute. Sometimes the patient is noisy, agitated, boisterous, extremely restless, especially when he seems overwhelmed by the hallucinations. At other times the patient is more stuporous or dazed, the enfeeblement of the thought activity having taken hold of the patient.

The picture of mental confusion is more frequently observed outside of idiopathic insanity than any other mental picture. In a rudimentary form it is met with in the various psychoses, such as dementia precox, manio-depressive insanity, and even in paresis, epilepsy and hysteria, and is in these surroundings easily recognized as a symptomatic admixture to the characteristic traits of the psychosis in question. What is spoken of in physical disease as a delirious condition is representative of this symptom group. Delirium, which means "off the track or furrow," is dependent upon a dream-like, befogged state of consciousness with more or less pronounced excitement into which enters the elements of incoherency, hallucinations and motor restlessness with a constant tendency to leave the bed, etc. Delirium is typically associated with acute infectious diseases, and the physician in general practice may at times find himself called upon to differentiate delirious states accompanying physical disorders from an idiopathic insanity. In delirium of this kind the patient raves, he is disoriented, it is difficult to get his attention, he is living a life of dreams in which former life experiences play a role. He takes a fantastic view of the surroundings, and may react upon hallucinations by lying quietly, muttering, picking at bed clothes (delirium muscitant), or mildly gesticulating. His motor reactions may, on the other hand, be violent in character; he may leave his bed because he cannot keep still, stimulated as he is by a craving for activity, which is usually present, or because of extreme apprehensiveness. He may even jump out of the window, climb up on the roof, or in various ways endanger his life. He may make a homicidal attack on his surroundings, under the influence of fear or persecutory ideas. The course, duration or prognosis of such delirium is dependent upon the character of the physical disease causing it, such as acute articular rheumatism, pneumonia, typhoid fever, puerperal fever, erysipelas, scarlet fever, measles, malaria, etc.

All the deliria complicating general diseases are undoubtedly due to infection set up by the primary physical ailment, no matter how transitory the delirium may have been. The delirium is probably not caused by the high temperature or fever, but, in common with the fever, may be a result of the infection. In one of the Napa State Hospital cases (Case I, herewith appended), we had a most striking illustration of an intense delirium when the rectal temperature was 102 degrees, while the patient showed absolute lucidity and rationality which continued for twelve hours to within a short period of death, when the temperature ranged between 106 and 107 degrees.

Aschaffenburg in his *Handbuch der Psychiatrie* (Leipzig, Special Part, First Volume, 1915) speaks of intoxication- or exhaustion-psychoses under his second group of exogenous psychoses, and under this name includes: infection-psychosis, psychoses in general diseases, acute nervous exhaustion and amentia. Amentia, as a disease entity, has lost much in prestige in recent years, but it is still adhered to as such by some writers. The more, however, one has his attention directed to exogenous factors and the more one meets with its association as a sequela to just such general diseases as belong in the class of infectious diseases, the more does one become convinced of its toxic origin. Even where it occurs as a sequela to physical exhaustion, as following hemorrhages, conditions leading to inanition, etc., it may be due to toxins which are known to develop under such circumstances.

At this hospital we have recently had an opportunity to study eight cases, the abstracts of which are herewith presented. We think these cases belong in a special group of infection-psychoses directly produced by microbic invasion. The cases have stirred quite an interest at the Napa State Hospital because of the virulent character of the disease—six of the cases terminating fatally, four within a period of eight weeks—and because of the results of blood-culture studies, which throw a certain light upon some of them. Very careful blood-cultures in five out of the six fatal cases were made at the laboratory. In three of them the diplo-streptococcus was found in blood secured during life as well as after death. In two of the cases, which suffered from chronic endocardial disease, one being a case of severe mitral stenosis, the diplococcus was also found in recent inflammatory material in fissures of the calcified mitral valve. The third case, in which the diplococcus was found in the blood prior to death, showed no heart lesions, but an enlarged spleen and other signs characteristic of septicemia. A blood-culture, with positive result, was also made in one of the two recovered cases, making in all four positive findings in the six cases where blood-cultures were taken. An acute nephritis was present in all the cases to a greater or less extent as evidenced by clinical symptoms supported by autopsy findings.

The temperature in the six fatal cases reached a considerable height, the maximums being respectively: 107.6°, 105.6°, 107.4°, 107°, 107°, and 107°, the duration of the disease proper in the six fatal cases varying from eight to fifteen days (12, 12, 9, 15, 12 and 8 days respectively). Five of the eight cases showed a temperature of 100.4 to 103.6 degrees on the day of admission or on the day following. In two of the patients the infection started a considerable time after the admission of the patient to the hospital. One of the two recovered cases, supposedly belonging to this group, came in with a temperature of 100.2 degrees and reached a maximum of 103.6°, which subsided gradually to the normal in about thirty-five days. Unfortunately, a blood-culture was not made in this case.

TABLE GIVING A RÉSUMÉ OF THE MAIN FEATURES OBSERVED IN THE EIGHT CASES REPORTED

	Age	Date of Admission	Onset of Delirious Outbreak	Exetus or Recovery	Duration of Delirium	Highest Temperature Reached	Results of Blood Cultures	Evidence of Kidney Affec.
1. P. C.	23	Jun. 17, '15 M. D.	Oct. 2, '15	Ex. Oct. 14, '15	12 days	107°	Negative	Acute par. Ne
2. H. K.	23	Nov. 20, '15 M. D.	March 3, '16	Ex. Mch. 15, '16	12 days	107°	Negative	Acute par. Ne
3. M. S.	24	Jan. 11, '16 M. D.	About Jan. 11, '16	About recovered on Feb. 15, '16	Recovery by lysis 35 $\frac{1}{2}$ days	103.6°	No cultures Made	Albumin and Casts
4. J. F.	41	Feb. 1, '16	Alcoholic Feb. 26, '16 Prob. one day prior to Feb. 2, '16	Ex. Mch. 6, '16	9 days	105.6°	Diplostrep-tococcus	Ac. par. Neph.
5. F. E.	20	Feb. 2, '16?		Ex. Feb. 16, '16	15 days	107°	Diplostrep-tococcus	Ac. par. Neph.
6. C. N.	51	Feb. 15, '16?	About Feb. 15, '16 Del. Tr.	Ex. Feb. 28, '16	12-13 days	107°	Diplostrep-tococcus	Ac. par. Neph.
7. J. V.	25	Apr. 5, '16	About Apr. 5, '16 Lucs of Cent. Ner. Syst.	Ex. Apr. 13, '16	8 days	107°	Negative	No ocular evidence of nephritis
8. F. H.	48	May 22, '16	About May 22, '16	June 12, '16	21 days	102.4°	Diplostrep-tococcus	Albumin and Casts

While the pathologist can only report a finding per blood-culture of diplo-streptococcus in four of the six cases (two of these with endocardial lesion) in which blood-cultures were made, yet there is in all cases a parallel as to duration, terminal extremes of temperature and nephritic complication, which is suggestive as to a possible identical toxic origin. Just where this microorganism, which has been known for some few years, makes its original entrance into the body has in some cases not been ascertained; although in other cases its focus has been demonstrated in the teeth, in the nasal and other sinuses, in the tonsil, etc. In the case with mitral stenosis it would be impossible to say whether the microorganism originated in the fissures of the valve or were reimported from without. In case IV hypertrophied tonsils were found at autopsy, but there was no history of tonsillitis. In case V nothing was found at the autopsy to explain the source of the microorganism.

The Stanford internes, Drs. R. A. Jones and H. F. West, rendered valuable assistance in the laboratory study of these cases.

Note:—Since the above was written we have had a ninth case of this form, which originated in connection with a throat affection leading to an endocarditis and terminating fatally. In this patient, a woman, we likewise succeeded in isolating the diplo-streptococcus. Clinically the course resembled that of case IV.

Case I—A. B., No. 15216, 29; white male, age 23, student, single. Admitted June 17, 1915; died October 14, 1915. Diagnosis: Manio-depressive insanity, maniacal phase.

Family History: Negative.

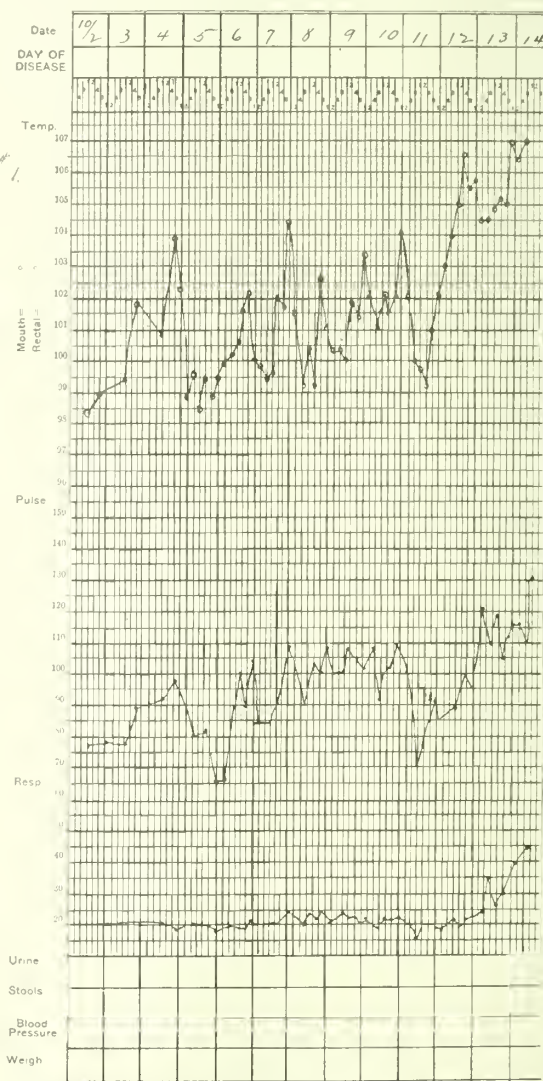
Past History: Childhood diseases from which recovery took place slowly, one severe illness during childhood, date unknown, said to have been due to streptococcic infection, complicated by acute nephritis. No other illnesses. Good mental capacity; athletic.

Present Illness: Onset rapid, suspicious, violent at times, very much excited.

Examination: At entrance physical examination entirely negative.

Progress Notes: From date of admission to October 2, 1915, the patient passed through two

phases of excitement of varying intensity, and on October 3, 1915, suddenly began to run a temperature, beginning at 99.4° and reaching 104° on the fourth. Physical examination daily repeated,



but showed no cause for fever. Temperature, accompanied by marked delirium, which continued throughout acute physical illness until forty-eight hours preceding death when complete lucidity

supervened. The acute delirium was accompanied by extreme restlessness and destructiveness.

Laboratory Findings: Blood, Wassermann, negative. Widal and cultures both negative upon two occasions. Leucocytes 17-20,000. Urine—repeated examinations showed heavy cloud of albumen, many Hyaline, finely and coarsely granular casts; moderate number of blood and pus cells.

Autopsy: Acute, passive congestion of the lungs; acute parenchymatous nephritis.

Case II—H. K. White, single, age 23, painter. Admitted November 20, 1915; died March 15, 1916. Diagnosis: Manio-depressive insanity, maniacal phase.

Family History: Father alcoholic; mother insane (Ukiah 12 years).

Past History: Has been addicted to liquor, extent unknown.

Present Illness: Onset sudden, November 13, 1915, about 25 days after operation for hernia. Excited, noisy, euphoric, talkative and incoherent; very delusional.

Examination: Slight Romberg, K. J. sluggish; tremor of hands; recent scar for double inguinal

was noisy, restless, destructive. In restraint continually. From March 8, to date of death on the 15th, temperature continued high, pulse and respiration in proportion. On March 15, at 5 p. m., temperature 107°, pulse 140, respiration 48. Expired at 6 p. m. On March 14, a few fine, crackling rales were heard at the right apex.

Laboratory Findings: Urine: Hyaline and granular casts, some pus in blood, cloud of albumen. Blood: Wassermann — — —; leucocytes 22,000; culture upon two occasions, March 8, and 13, negative. Cerebro-spinal fluid: Pressure normal—chemical and microscopical examination normal.

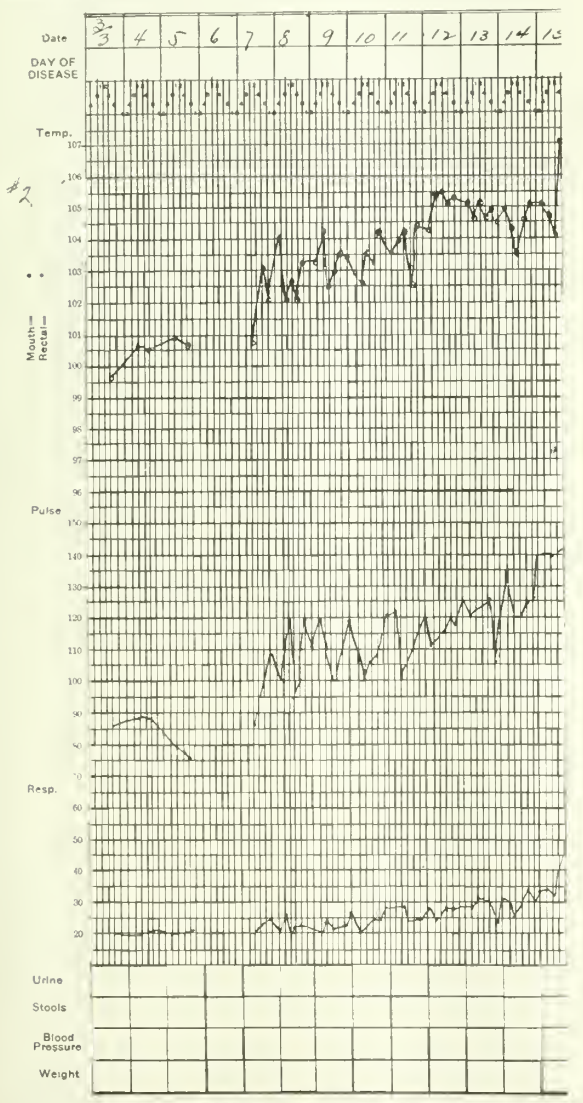
Autopsy: By Dr. H. R. Oliver. Hemorrhagic, broncho-pneumonia, fatty degeneration of the heart muscle, acute parenchymatous nephritis.

Case III: M. S., age 24, Madera Islands, laborer. Admitted January 11, 1916. Diagnosis: Acute mania.

Family History: A sister was insane.

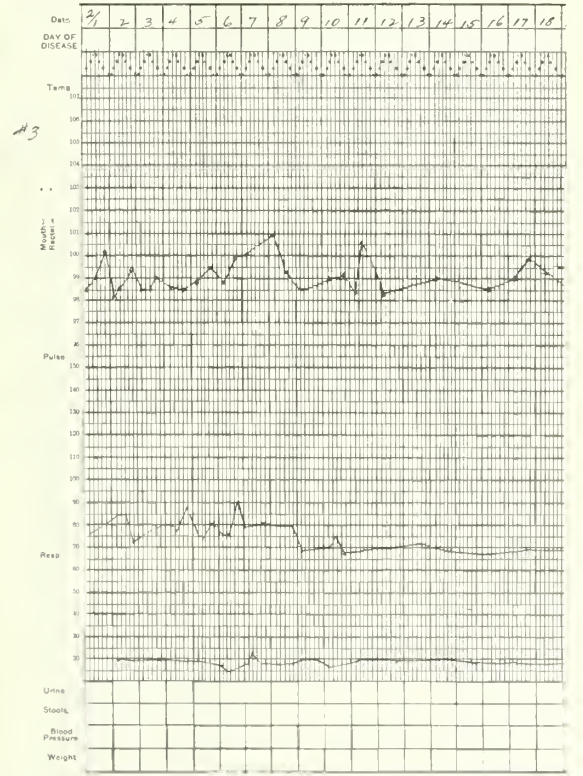
Past History: Has taken liquor in moderation; has been mild-mannered; mental capacity good; general health good.

Present Illness: Began January 3, 1916. Was rapid in onset. Patient was noisy, restless, violent and dangerous, incendiary and excited, threatened homicide. Memory is good. Sleeps poorly. Has hallucinations, fixed delusions, is destructive, tearing his bedclothes, imagines that there are persons under his bed, cries and holloes, attempted to kill and to do great bodily injury. He thought



hernia operation. Apprehensive and easily excited, poor insight; no elation.

Progress Notes: March 3, 1916, began running a temperature starting at 99.6° and reaching 104° on March 8; with onset of temperature, patient

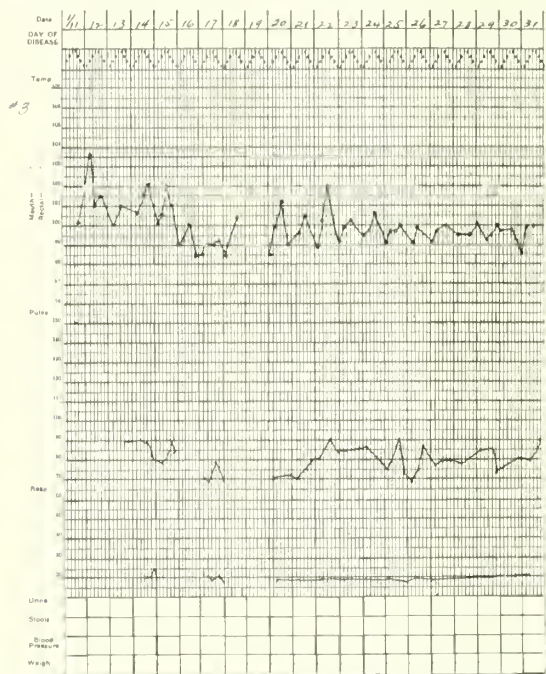


that he saw and was talking to people who were not present. Talks incessantly and incoherently. Impossible to get his attention.

Progress Notes: On January 12, 1916, temperature 103.6°. Temperature remained above 100° to January 25, 1916, after which with few exceptions it has remained below 100°, with exception of — days in April. Patient was noisy, confused, and in restraint most of the time, up to February 15th, after which the excitement gradually subsided and he has now, May 1st, 1916, been quiet and fairly rational for about thirty days.

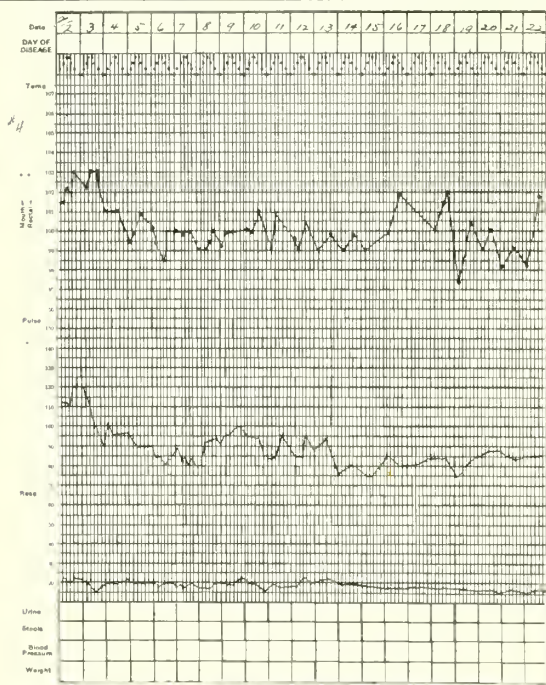
Laboratory Findings: January 12, 1916: Urine: Sp. Gr. 1.025. Albumen—slight trace. Few Hyaline casts, one granular, few pus cells.

February 3, 1916: Urine: Sp. Gr. 1.025. Albumen—very faint trace. Few Hyaline casts, few pus cells. Blood serum, Wassermann, — — —.

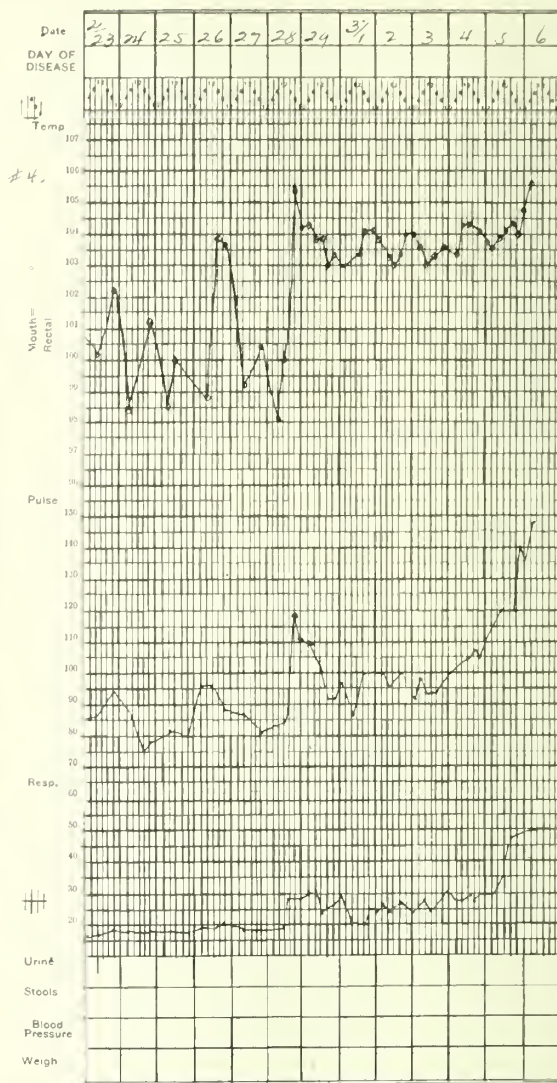


Case IV.—J. F., No. 15593—30; white, male, age 41, carpenter. Admitted February 1, 1916; died March 6, 1916. Diagnosis: Incubate sentenced for one year.

Family History: Father died of progressive, muscular atrophy; mother of pelvic tuberculosis.



Past History: Separated from wife; typhoid fever twenty-two years ago; three sunstrokes; liquor and tobacco to excess since 1892, recent from forty to fifty whiskies and fifty cigarettes per day.



Present Illness: Began in September, 1915; voluntary commitment, using liquor to excess.

Examination: Temperature of 103°, patient appears on the border of delirium; dullness at the right base, tactile and vocal fremitus increased over this area; breath sounds distant; left lung hyper-resonant; heart—apex in fifth interspace, nipple line, a thrill felt over the apex region, a soft blowing murmur heard throughout systole, all over the cardiac area and in the axilla, a short, barely audible diastolic murmur is also heard; radial pulse 100, moderate tension, low volume; some radial arterio-sclerosis.

Progress Notes: After admission the patient's temperature continued to run between 103° and 105°, accompanied by a low grade delirium, and reaching 105.6° just preceding death.

Laboratory Findings: Urine: On several occasions showed cloud of albumen, Hyaline, epithelial and granular casts, few leucocytes and blood cells. Blood: Wassermann, negative; leucocytes 10,000; culture, many Gram-positive diplococci tending to form chains.

Autopsy: Heart: mitral valve shows recent vegetative formation; aortic valve shows on anterior cusp an enormous soft vegetation with necrotic areas, the cusp presents one perforation the size of a lead pencil. Cultures from the heart's blood and smears from the valves shows the same organism found in blood culture before death. Spleen septic; acute, parenchymatous nephritis, infarct of right lung.

Case V.—F. E., No. 15597—30; white, male, age 20; laundryman; single. Admitted February 2, 1916; died February 16, 1916. Diagnosis: In suspensio.

Family History: Mother hysterical; mother's sister insane.

Past History: Convulsions when an infant (gastro-intestinal); slow in school.

Present Illness: Onset January 21, 1916; auditory and visual hallucinations; noisy, restless, divertible, refuses food, stereotyped movements; repeats phrases.

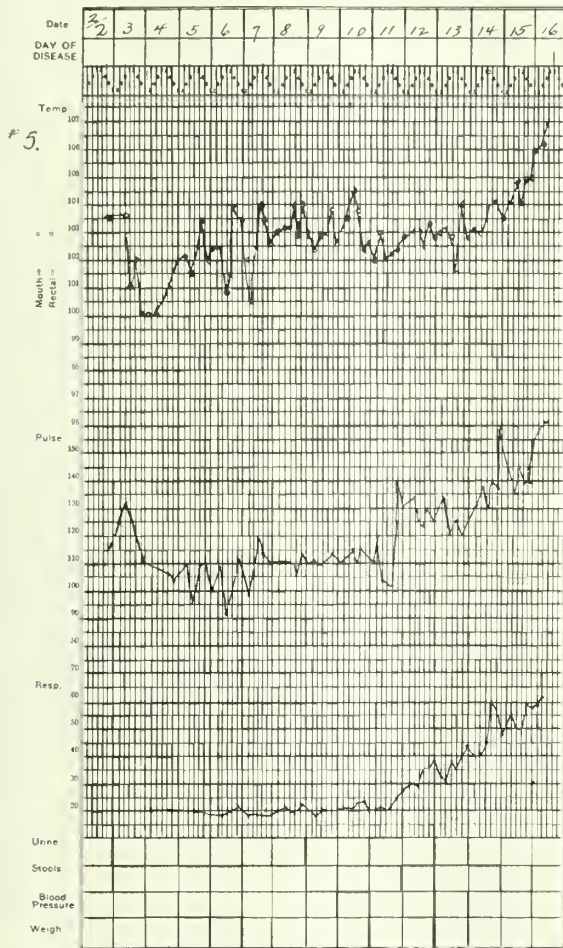
Progress Notes: Patient received in a state of acute delirium, temperature 103.6°, which could

Case VI.—C. N., No. 15616—377: White; male; clerk; age 51. Admitted February 15, 1916; died February 28, 1916. Diagnosis: In suspensio.

Family History: None obtained.

Past History: Peculiar since 1913; no other history.

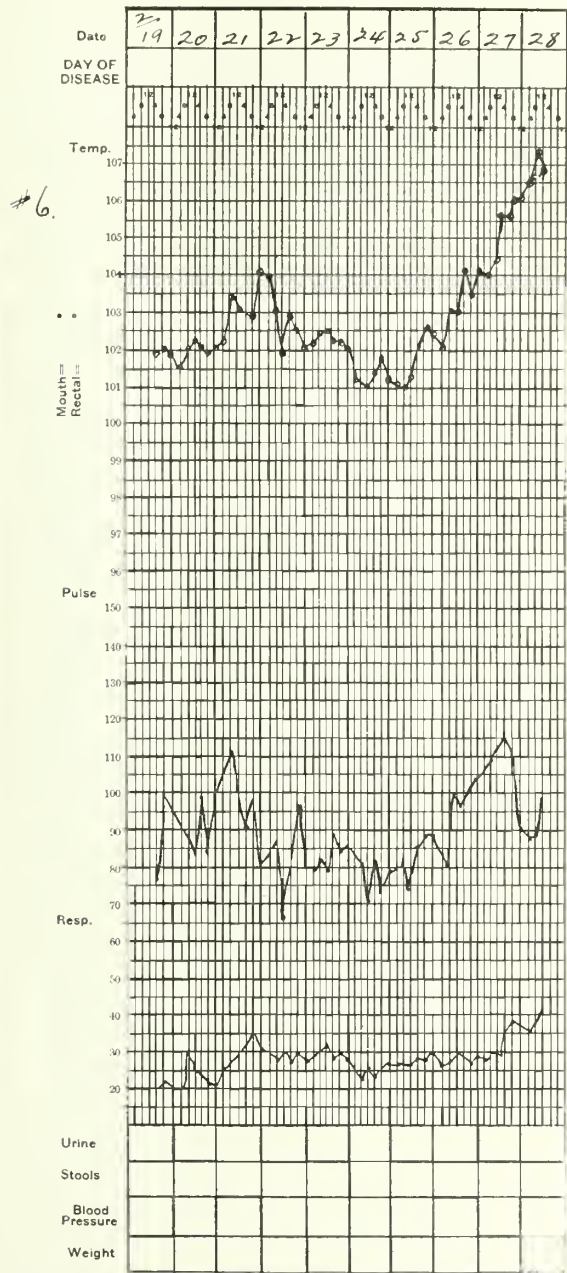
Present Mental Illness: Began about December 15, 1915; onset gradual; depressed and stuporous; irrational acts.



not be accounted for by repeated physical examination; delirium of a very acute, severe type continued, accompanied by a very high temperature until death on the fourteenth day after admission. Patient was very noisy and destructive, in restraint continually.

Laboratory Findings: Blood: Wassermann, negative, leucocytes 24-25,000. Widal, negative: culture February 9th and 14th, both show diplococcus tending to form chains. Urine: On admission, a faint trace of albumen, occasional Hyaline casts; February 9th, cloud of albumen, many Hyaline and granular casts; occasional blood and pus cell.

Autopsy: No abnormality observed, except old, dense adhesions about the gall-bladder and ascending colon. Cultures taken from the heart, spleen, gall-bladder and mesenteric lymph nodes, all negative.

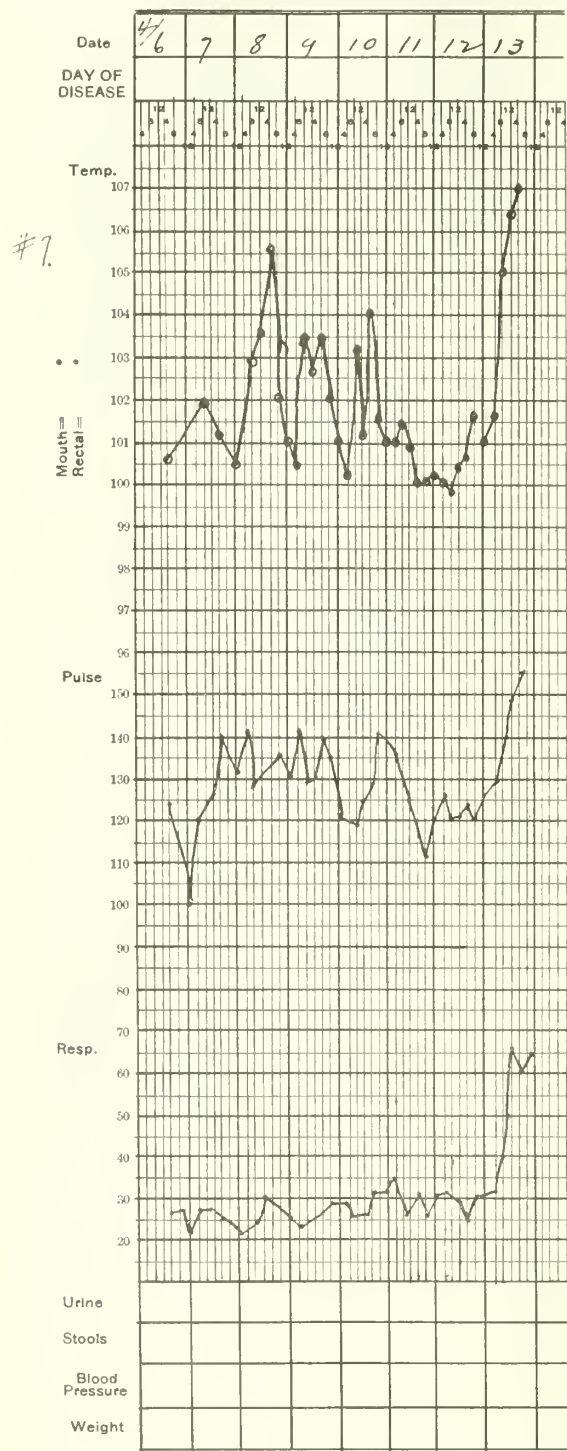


Progress Notes: On the second day after admission, the patient developed hallucinations of sight; on the third day, a temperature of 99.2°; this temperature continued to rise with few slight remissions until the tenth day, reaching as high as 107.4° just before death. Fever was accompanied by a low grade of delirium and very irregular heart action.

Laboratory Findings: Urine: cloud of albumen, few Hyaline casts, some pus and blood. Blood: culture shows a Gram-positive diplococcus tending to form chains.

Autopsy. Heart: left auricle enormously dilated and hypertrophied; mitral valve calcified and admits the tip of one finger; on the mitral valve are fissures from which cultures are made, showing the same organism as found in the blood culture. A general arterio-sclerosis, septic spleen, and parenchymatous nephritis.

Case VII—J. V., No. 15797—30: White; male; age 25; cook. Admitted April 5, 1916; died April 13, 1916. Diagnosis: Delirium tremens (?).



Family History: None obtained.

Past History: Arrested in San Francisco, March 31, 1916, charged with drunkenness; at the Emergency Hospital; noisy; restless; delirious; profane.

Present Illness: Exact date of onset not known. Upon admission temperature normal, visual hallucinations; the following day, temperature 100°; very noisy and restless.

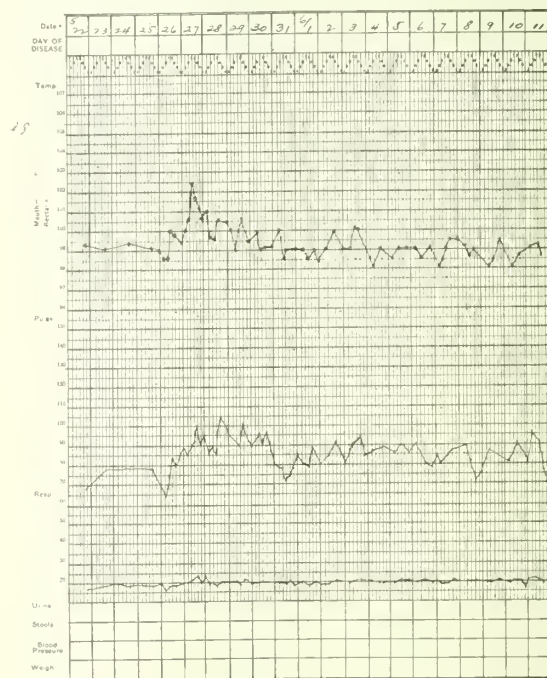
Progress Notes: Temperature continued to rise, reaching 105.6° on April 8th. Patient threw himself about in bed, made grimaces, very destructive. Repeated physical examination revealed nothing abnormal. A few arrhythmic patches are observed over the thighs, hips and abdomen; temperature continued high. Examination of urine showed a marked acidity which would not yield to large doses of bicarbonate of soda. Intravenous injections of 1000 c.c. solution containing 10.2 grams sodium bromide, 8.6 grams of sodium bicarbonate and 5.2 grams sodium chloride, to this was added 200 c.c. of a thirty-three and one-third glucose solution. On April 11, 1916, the urine was still acid, and this intravenous infusion was repeated but no sodium bromide being given. The urine after this became alkaline, and the temperature reduced to 101.6°. April 13, the temperature rose steadily during the morning hours; at nine a. m., temperature 105°, pulse 136, respiration 64; at 3 p. m., temperature 107°, pulse 155, respiration 64; patient died at four o'clock.

Laboratory Findings: Blood—Leucocytes 23-24,000; culture negative upon two occasions. Urine—On Admission faint trace of albumen with a few Hyaline casts, strong acid reaction; later, showed light cloud of albumen with Hyaline casts, pus and blood cells.

Autopsy: No abnormality observed except extreme dryness and bright red color of all tissues; extreme viscosity of blood; severe broncho-pneumonia of the lower lobes of both lungs.

Case VIII.—F. H., No. 15771—30: Male; Japanese; 48; laborer; married. Admitted May 22, 1916. Diagnosis: Lues, central nervous system (?).

Family and Personal History: Negative as far as known; very little information obtainable.



Physical Examination: Small, fairly well nourished Japanese; pupils unequal and irregular; reaction fairly prompt, excursion somewhat limited; remains of an iritis evident. Knee jerks and triceps lost. Tongue deviates slightly toward the right; tremor of hands; radial arterio-sclerosis.

Mental Examination: At time of admission pa-

tient was restless, noisy and confused; temperature 99.4°. This state continued until June 12, being accompanied by a further elevation of temperature, reaching 102.4°.

Progress Notes: Extreme delirious confusion, gradually subsided until June 12, when the patient still showed talkativeness and restlessness. An acute nephritis was present on admission, subsiding with the marked confusion. A blood culture on June 6 showed a scant growth of gram positive diplococci with a tendency to form chains. Wassermann blood serum XXX. Cerebro-spinal fluid XXX. Globulin XXX. Cells 184. Colloidal gold reaction 4455554432. At the present time, July 1, patient is restless, destructive and at times untidy.

SELECTED POINTS IN GASTRO-INTESTINAL DIAGNOSIS.*

By CARO W. LIPPMAN, M. D., San Francisco.

It is a well known fact that profuse diarrhea may occur in Graves' or Basedow's disease as well as in Addison's disease. These diarrheas are of two types, one associated with large amounts of fat in the stools, the other with no signs of disturbance of fat absorption. That the presence of a profuse watery diarrhea may serve as a differential diagnostic point I wish to demonstrate with the following case history:

Previous history—man of 63. Rheumatism since the age of 11 with red, swollen joints, laid up about three months in each of five attacks. Six years ago typical gallstone attacks requiring morphia, similar attacks two months ago. For last six months nausea, retching, belching, but no vomiting. This condition is not affected by the kind of food he eats. Aversion to meat for the last months. Loss of 50 lbs. in weight in six months which he ascribes to his not eating and a daily watery diarrhea—(two to twelve stools). He helped this diarrhea along by taking cathartics. He had an evening rise of temperature, 102° every second night. No malarial organisms found. Six weeks ago painful lumps on spine appeared (lipomata). No occult blood in stools. The diagnosis before I saw him was gallstones plus psychasthenia. He was sent to me with the question of a malignant growth in the stomach. He still weighed about 200 lbs. Physical examination was unsatisfactory. He had a palpable spleen, tenderness in the gallbladder region, and painful fat tumors along the spine. Otherwise, physical examination was negative. Blood pressure, 150 mm Hg. More important than the general physical examination was the impression of asthenia. It exhausted this 200-pound man for an hour to walk from the elevator to my office. And this without demonstrable cause. Fluoroscopic examination was negative for carcinoma of the stomach. The stool examination with the Schmidt test showed a large liquid stool with no free fat globules, few fatty acid crystals, no starch granules, no mucus. The only abnormal element was a large amount of connective tissue with a few meat fibres imbedded therein. This stool was not the stool of a chronic irritative bowel condition. The absence of the fatty constituents in a diarrhea stool militated against pancreatic disease, although it did not rule it out. The stool was of the type most often seen in a toxic diarrhea. The asthenia, (even without low B. P.), the presence of painful fatty tumors, the toxic diarrhea, all pointed to one of the internal secretory glands as the cause of the disturbance, in this case, to the suprarenal glands. Gallstones alone did not account for the whole symptom

complex. At operation some months later gallstones and a left-sided hypernephroma were found. Earlier operation might have prolonged the man's life.

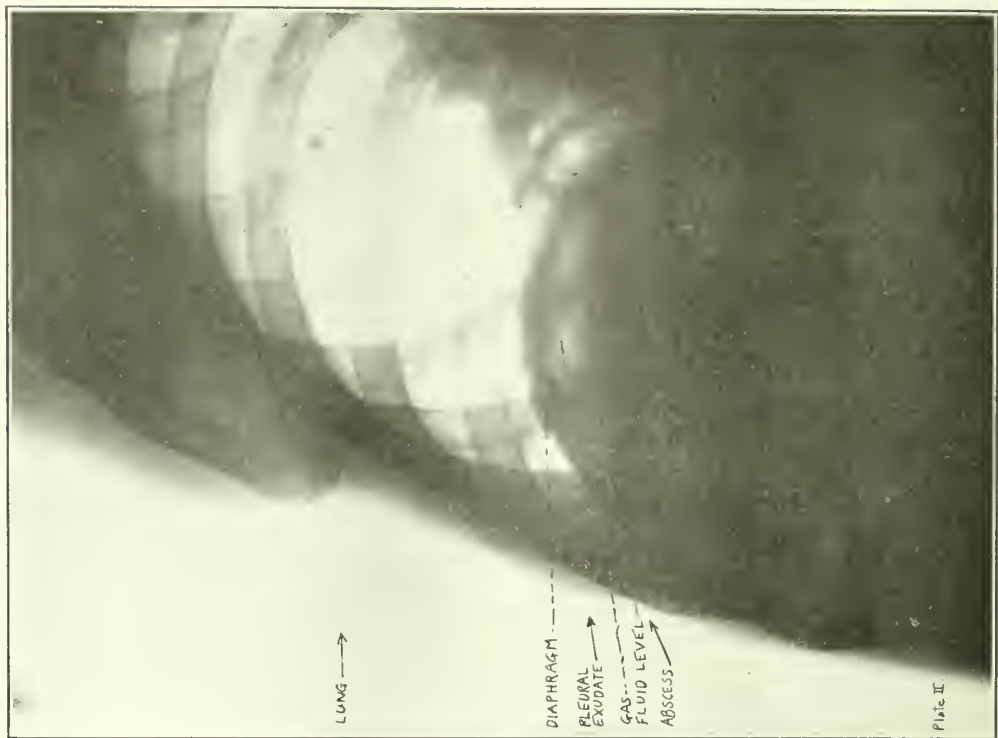
The point to which I wish to call attention is that we must always think of the internal secretory glands in chronic diarrhea and always examine the stool by means of the Schmidt test diet. With the aid of the Schmidt test diet we may demonstrate an unsuspected pancreatic disease, even more important, because more commonly met with, we may determine the presence of a carbohydrate or proteid dyspepsia, conditions which are rarely diagnosed in our community and which are comparatively simple to remedy. In these cases the surgeon is in doubt and often takes out the appendix. The patient is then minus his appendix but still has the original disease. It would redound much to the advantage of the patient if a Schmidt test diet be given before a chronic appendix is diagnosed and removed. Of course, we have a chronic appendix at operation in these dyspepsias but it is only the chronic appendix so commonly associated with a chronic irritation of the whole bowel.

Now I will turn to a condition in which the stool examination helps not at all in the diagnosis and history only sets us on the right track. In any case which has a fever, perhaps slight cough and signs of fluid or pleurisy at the base of the right lung and besides this has a history of acute belly-ache at some time previously, think of a subphrenic abscess and examine the case fluoroscopically. Here I wish to emphasize, as always, that the most important point in abdominal diagnosis is the history, next in rank and at all times all-important in giving the indication for prompt operation, the radiological examination; thirdly, the examination of the stool for occult blood, or with the Schmidt test diet, as the case may require. I rate these in the order of their importance; all other examinations are of lesser importance and contribute other than confirmatory evidence only in exceptional cases. Of course, I am talking of diseases which lie beyond the reach of the proctoscope.

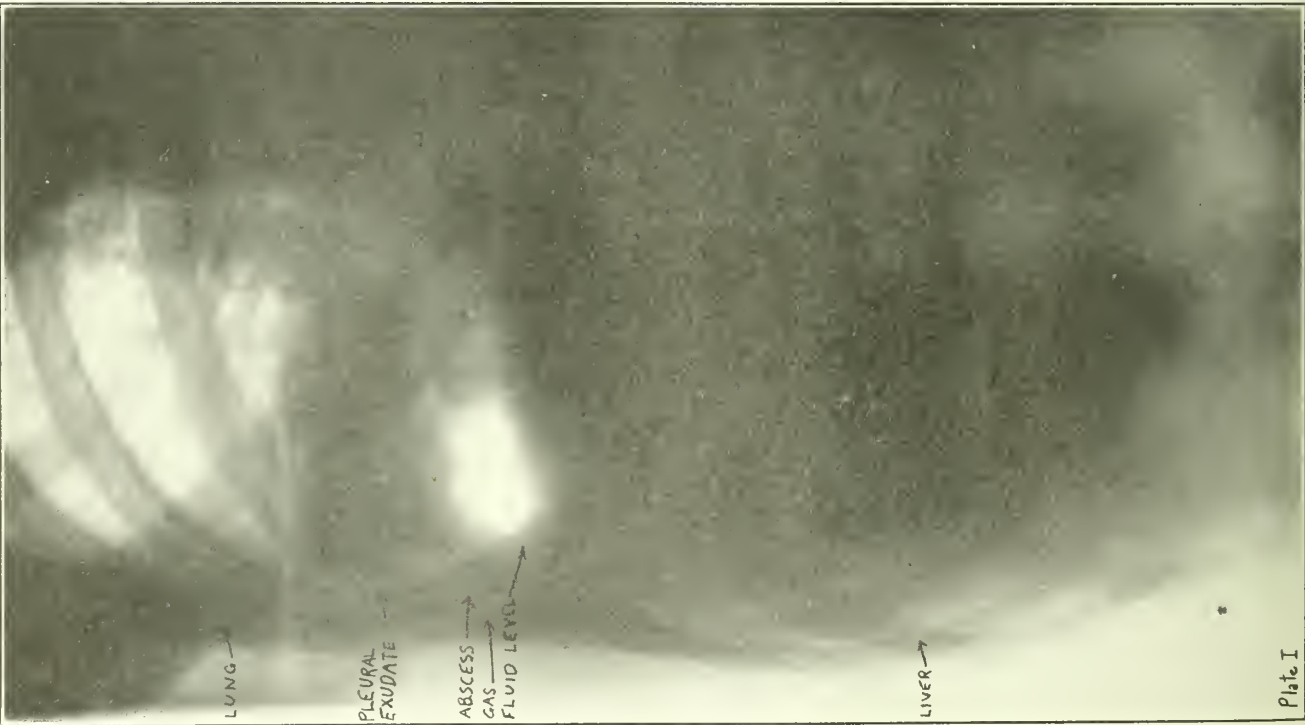
Case No. 1 (see Plate No. 3) was clinically diagnosed inflammatory condition of the abdomen, carcinoma. Six months ago, gas formation; six weeks ago patient was under the care of a stomach specialist. No dark stools. No vomiting. Four weeks ago, severe attack of abdominal pain with "hard muscles" after a lobster dinner. No fever. In bed one week. One week ago no free HCl after test meal. P. E. Ascites. Swelling of legs. Signs of fluid at right base. Temperature rose occasionally to 101°. Fluoroscopic examination: beneath diaphragm a fluid level which shows waves and droplets on shaking the patient—(see Plate No. 4). Duodenum distorted, lying along base of liver shadow moving with it (adherent). Liver indents upper part of stomach. Diagnosis: gas containing subphrenic abscess. Adhesions about duodenum with distortion of that organ. Probable perforated duodenal ulcer. Operation: pints of stinking pus removed from above liver.

Case No. 2 was that of a man with a history of pain in the epigastrium for three years. (See Plate No. 1). No vomiting or nausea. Fifteen months ago patient had severe pain in the epigastrium, fainted, later vomited about two quarts of dark blood. In hospital for a few weeks with

*Read before the annual meeting of the California State Medical Society, Fresno, Cal., April 20th, 1916.



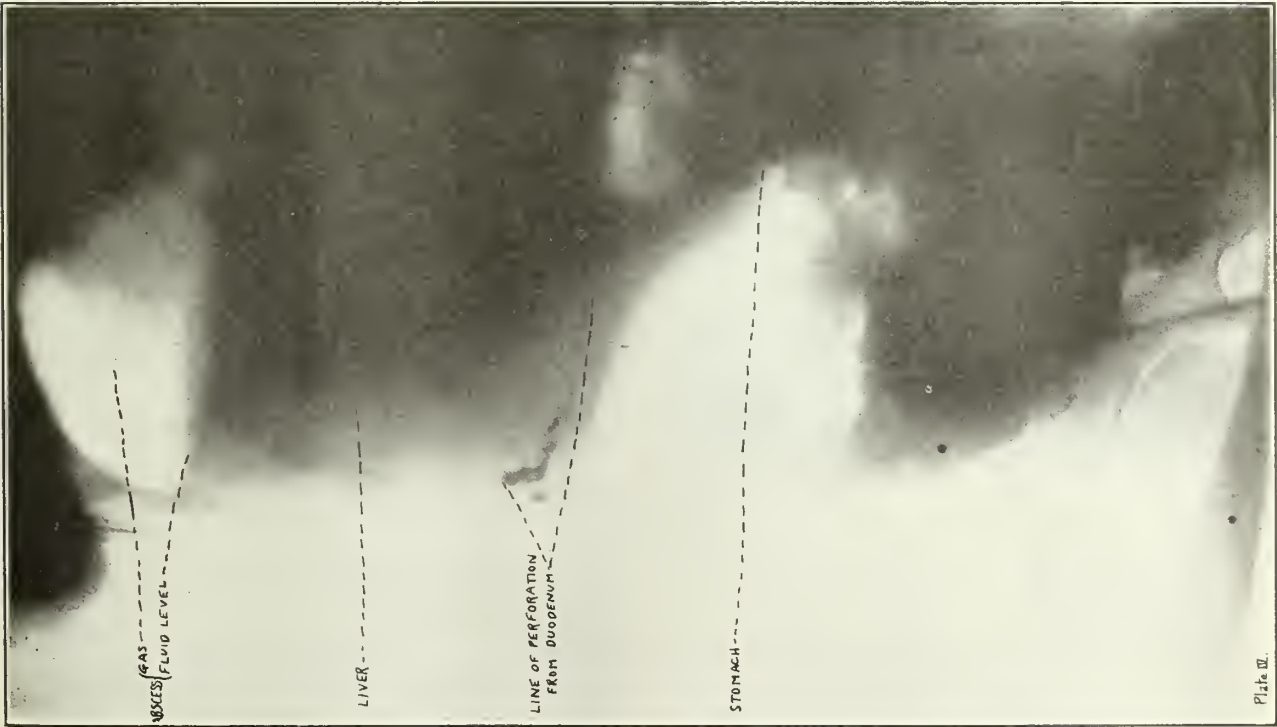
Subphrenic abscess. Plate I.



Subphrenic abscess. Plate II.



Subphrenic abscess. Plate III.



Subphrenic abscess. Plate IV.

diagnosis of peptic ulcer. For last eight or nine months pain came on two to three hours after meals, relieved by eating soda. Three days before entrance to hospital, pain was exceedingly severe. The physical examination showed bronchial breathing in the right lower lung, a liver edge palpable three fingerbreadths below costal margin. Patient is very tender over gallbladder region and just to left and above umbilicus. The patient had no temperature by mouth, 102° by rectum. The patient lay in the hospital for twelve days with a diagnosis of ulcer. The surgeon, at his first examination, suggested subphrenic abscess as a possibility. It was sent to me for fluoroscopy. Fluoroscopic report: Below right dome of diaphragm is fluid level with gas above. Level stays horizontal in all positions. No fluid in pleural cavities. Diagnosis: subphrenic abscess containing gas. Operation: about ten ounces of stinking pus drained from below diaphragm.

Case No. 3 (see Plate No. 2.) Operated on for ruptured appendix, August 19th. About three weeks later began to have an evening rise of temperature to 100° , which kept up for a month, the temperature occasionally rising to 102° . There were no other presenting signs or symptoms except some dullness at base of right lung. The case was sent to me with the question of tuberculosis (October 14th). Fluoroscopic report: Lungs show slight exudate in right costodiaphragmatic angle. Right dome of diaphragm immovable, high in chest cavity. Left dome of diaphragm freely movable. Beneath right dome of diaphragm is fluid level with gas above. Fluid level forms waves and droplets on shaking man. Diagnosis: Subphrenic abscess, containing gas. Operation: Three pints of foul stinking pus removed from above liver.



Plate V.

These cases illustrate merely one type of case in which abdominal radiology has become so extremely important. Especially to the surgeon is early and quick diagnosis important if he wishes to save his patient. The abscesses which contain gas are easy to diagnose radiologically, but even when they contain no gas the radiological examination is exceedingly important in differential diagnosis. We can rule out fluid or pus in the lung with a quick glance at the fluoroscopic screen. We

can see whether the diaphragm is movable or not. Upon this latter point I wish to lay extreme emphasis. I think of a case which I saw a year ago. A man lay sick with a septic temperature and pain in the right side. The clinical diagnosis lay be-



Duodenal ulcer. Cole's defect. Plate VI.

tween subphrenic abscess and perinephritic abscess with the possibility of tuberculosis. The fluoroscopic showed no fluid of any consequence in the lungs and a freely movable diaphragm. In the presence of a subphrenic abscess the diaphragm is never movable in my experience. Of course, you may have a fixed diaphragm without a subphrenic abscess being present. With the aid of the fluoroscopic examination we reached a diagnosis of perinephritic abscess by elimination. Lumbar incision was made and the pus removed.

Another point which helps me out in my obscure gastrointestinal cases is the observation of the distortion of the first part of the duodenum. The normal cap is roughly triangular and perfect in its outline. When this is distorted in any way and the distortion is constant we know that there is some process involving the first part of the duodenum. Whether this be duodenal ulcer with the scar tissue producing the defect or gallbladder disease our history and stool examination must decide. A duodenal ulcer history with a defect is duodenal ulcer with about 90% correctness in my private practice. I wish to insist about private practice because I make an observation of at least two hours to be assured that the defect is constant, whereas in clinical work this is impossible. The addition of occult blood to the syndrome, of course, makes the diagnosis even more accurate. I give the history of three typical cases operated by one surgeon.

Case No. 1 (see Plate No. 5). Mr. B. Age 55. Every ten days to two weeks, temples would swell up, then vomiting after having headache (migraine). Pain in right hypochondrium, three hours after meals for fifteen years. Attacks in fall and spring, principally. Never vomited until recently. Never vomited from breakfast or the



Chronic appendix. Plate VII.

day before. No loss of weight. Constipated. Pain relieved by eating. Fluoroscopic examination showed defect in cap to be constant, 1-6 residue of a Rieder meal after six hours. Diagnosis of duodenal ulcer with mild grade of pylorostenosis confirmed at operation.

Case No. 2 (see Plate No. 6.) Mr. Z. Classical duodenal ulcer history for many years. Pain two hours after eating. Defect in cap constant on fluoroscopic examination. Diagnosis: Duodenal ulcer. Operation showed defect to be due to thumb-like mass of adhesion in first part of duodenum.

Case No. 3 (see Plate No. 7.) Mr. By. Age 54. Stomach trouble for several years. For last year worse. No vomiting. One year ago got sick three to four hours after meals. For the last few months gets nauseated with oppression in belly one to two hours after eating. No dark stools, has not lost weight. This case had a perfect duodenal cap so I went looking for other lesions. I show you his appendix, which was fixed and immovable on the fluorescent screen. Ninety-six hours after the last bismuth meal there

was still a residue in the appendix. No tenderness over appendix. A diagnosis of chronic appendicitis was made. Removal of chronic appendix with recovery.

I have seen so-called duodenal ulcer history occur in so many belly conditions—particularly in gallbladder affections and general ptosis—that I think of it only as a symptom of duodenal irritation and deprecate the operation for duodenal ulcer on the basis of history alone as Moynihan advocates.

Another type of case in which the history gives us the diagnosis of ulcer, the stool may or may not give us information as to its activity, i. e., occult blood may or may not be present in the stool during the period of our examination but the fluoroscope gives us the indication for the urgency of operation. I refer to the cases of penetrating ulcer of the stomach. Any ulcer which has gone on to penetration must and should be removed operatively. The penetrating ulcer is characterized fluoroscopically by a hole in the wall of the stomach, the so-called niche of Haudek. The symptomatology of these ulcers does not differ materially from that of ordinary gastric ulcer—some cases having but little pain are diagnosed as chronic dyspepsia, others in which pain is the chief symptom are more readily diagnosed. I present a few cases without hour-glass formation because they are the most frequently missed. (See Plate No. 9.) To make this diagnosis of callous penetrating ulcer we must have not alone a bismuth patch sticking out from the stomach but also an immovable patch. A pain point usually coincides with the hole in the wall—a gas bubble may or may not be present. If I do not see a niche once in 80 to 100 cases sent to me for examination I feel that I am missing them. This percentage held true not alone of San Francisco, but also in other places where I have worked. Whether this ulcer be ulcer or ulcercarcinoma is a matter for the pathologist to decide—rarely for the clinician or surgeon.

The last callous ulcer (See Plate No. 10.) with niche formation represents a truly important case in which I overlooked certain possibilities. Following is the case history:

Nov. 29, 1915. Mr. J. A. J. Age 45. Pain in epigastrium radiating through to back for six to seven years with free intervals. Pain about three hours after eating and at night between 11 p. m. and 1 a. m. Pain not relieved by eating. Belches much gas. Vomits mouthful of sour water when he has pain. Has lost 12 lbs. in six weeks. Constipated seven years ago. Jaundiced. Pain refractory to ulcer diet. Venereal history denied. At operation a bulging callous ulcer on the lesser curvature was found but likewise a typical patchy white luetic liver. The man was closed up without excision of ulcer, then the Wassermann was taken, which proved negative. Despite this, specific treatment was instituted. The man was relieved of all his symptoms.

Note: May 29 the man returned to my office—the niche has completely disappeared, likewise the man's symptoms.

I now wish to take up syphilis of the stomach not such as this last case may prove to be and as it is described throughout the literature—either with syphilitic ulcer, palpable tumor, or syphilitic pylorostenosis, but an earlier and milder grade of syphilis—a syphilis which is probably only expressed by a submucosal infiltration and a chronic gastritis with

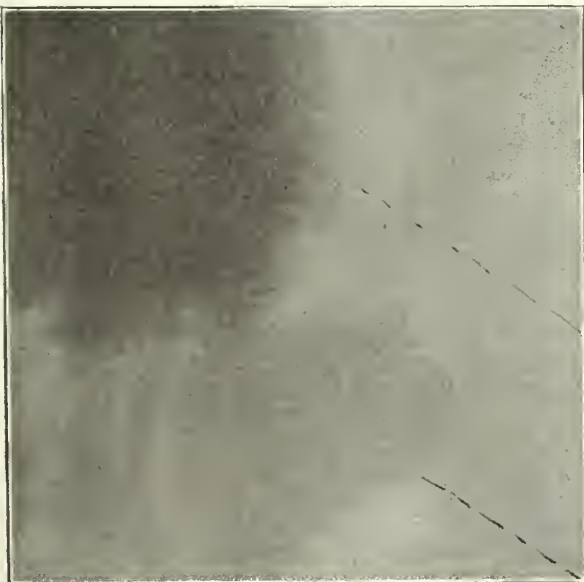


Plate VIII.

swelling of the mucous membrane of the stomach as witnessed by the enlarged rugae seen on the screen. The symptomatology is illustrated by the following three typical cases:

Case 1. C. W. F. Age 33. Sept., 1915. For last three to four months feels as if he has lead in his stomach after meals—no pain, followed by vomiting spells ten hours after meals—just a couple of mouthfuls of water. Ulcer diet for some months which didn't help. Three days ago vomited up burning water and few teaspoonfuls of blood. No food vomited. Venereal denied. Doesn't drink. P. E. negative. Fluoroscopic examination. Antrum formation imperfect. (See Plate No. 11.) Cap of duodenum perfect. Rugae of stomach very marked on pressure. On the strength of the very marked size of the rugae the chronic gastritis symptoms—sense of weight in epigastrium, vomiting of bitter fluid, etc., and the absence of any etiological factors, I made a diagnosis of gastritis probably on a luetic basis. The Wassermann was then taken. It was triple X positive. Specific arsenic and mercurial treatments were given—the patient promptly got well but did not stay well, apparently on account of insufficient treatment. He is still under treatment.

Case 2. S. V. S. Age 40. Machinist. Three years ago first attack of bellyache—general pain throughout belly with rigidity of belly wall. Fever. This pain came on while working. No trouble since this attack. Ten days ago, bellyache, just



Callous ulcer (luetic). Plate X.



Penetrating ulcer. Plate IX.

before going to bed, dull ache. Sense of fullness on right side of belly not confined to gallbladder region. Lying on back relieves pain. Twelve to 15 glasses of beer a day is the most he has ever taken but may go months without drinking. No whisky. Venereal denied except for black spot on penis seven years ago. No secondaries of any kind noticed. Not treated for lues. P. E. negative. Fluoroscopic examination showed slight halt of bismuth at cardia end of oesophagus. Antrum formation of stomach perfect. Cap of duodenum perfect. Stomach three fingersbreadth below iliac crests. Rugae large—mammulated. Here again we have the symptoms fitting into a diagnosis of chronic gastritis with enlarged rugae. A diagnosis of ptosis with chronic gastritis on an alcoholic and possibly luetic basis was made. The

Wassermann was taken and proved triple X positive. The man was treated with specific arsenic and mercury preparations, losing all his stomach symptoms with lightning-like rapidity.

Mr. M. T. M. Dec., 1914. Age 37. Chauffeur. One year ago indigestion, pain in epigastrium, a little to right, coming on three to four hours after eating, acid belching lately. No vomiting. Constipated. Good appetite until lately. Eating relieves pain. Lately pain has shifted to left hypochondrium—is constantly there, worse one hour after meals. Venereal—hard chancre? several years after. Physical examination—negative. Stomach as in cases 1 and 2 with prominent rugae. Cap of duodenum perfect. Tentative diagnosis of syphilis with localization in the gastro-intestinal tract was made. Wassermann was then done, proving triple X positive. Specific treatment immediately cleared up the symptoms.

Of course, the two questions which occur to you at once is why wasn't a Wassermann taken and specific treatment instituted before a complete examination? If you did this you would miss many a true ulcer and many a cancer because syphilis is really and truly a popular disease which occurs in conjunction with other conditions of which it is not the cause. And here I wish to state my belief that syphilis is a rare cause of typical peptic ulcer. Just as you may have a positive Wassermann with the rash of a pityriasis rosea so you may have a positive Wassermann co-existing with a true peptic ulcer. This fact is brought out very prettily by an hour-glass stomach with a penetrating ulcer, where the doctor wouldn't cut out the ulcer but did a simple gastrogastrostomy. After the operation the patient's husband turned up with incipient tabes. The doctor gave her luetic treatment to heal the ulcer but when the hour-glass had returned several months later he finally had to excise the ulcer with resultant cure.

To sum up, gentlemen, in every case of atypical ulcer symptoms with negative laboratory findings don't remove the appendix but remove blood for a Wassermann.

SEPTIC TEETH.*

By JOHN S. MARSHALL, M. D., Sc. D., F. A. C. S.
(Captain U. S. Army, Retired.)

The object of your essayist in presenting this subject is to place before you certain facts in relation to the pathology of these teeth, and a few practical suggestions as to their treatment, gained from clinical experience.

I am not presuming to pose as your teacher, but only desire to add my mite to the elucidation of this interesting and important subject. There will be no attempt upon my part to enter into the operative technic usually employed by the dental surgeon in the treatment of this class of teeth, for it would not only be tedious to you, but unprofitable.

Furthermore, there is a time limit set by your rules which must not be over-stepped; consequently, much of the detail which might, under other circumstances, be proper to present, must be left out.

Several interesting cases might also be presented, but I presume they would only duplicate others which have occurred in your own practice, and may therefore, for the same reason, be omitted.

Septic teeth may be divided into four classes:

(a) Teeth which have lost their pulp vitality and contain gangrenous pulps.

(b) Teeth which, by reason of containing devitalized pulps, in whole or in part, are producing chronic periapical irritation.

(c) Teeth which are devitalized and, by reason of their septic condition, are causing dento-alveolar abscess, acute or chronic.

(d) Teeth which have been treated by removal of the pulp and filling of the root canal, but in which the dentinal tubuli and fibrillæ have not been thoroughly sterilized.

We purposely refrain from including in this classification those teeth which are affected with so-called pyorrhea alveolaris for, although their alveoli are in a septic condition, the teeth are usually vital, and, consequently, not septic.

Before entering upon the consideration of our subject, let us for a moment glance at the anatomy of a normal tooth, and its relation to the jaws.

A tooth is composed of enamel, dentine, cementum, a central pulp, and a membrane covering the root; and the tooth is set in a socket, or alveolus.

The superior anterior teeth, at their apices, are in close relation to the floor of the nasal fossa. The bi-cuspid and molars bear a similar relation to the floor of the antrum, and not infrequently penetrate it, while the inferior bi-cuspid and molars at their apices often lie in close proximity to the inferior dental canal, and sometimes penetrate into it; as was shown about a year ago by Dr. Josef Novitzsky, of this city.

The dentine is traversed by numerous little tubes, which contain delicate nerve fibrillæ, while the cementum contains numerous lacunæ, and these are connected with each other by delicate processes. The tubuli and fibrillæ of the dentine

make up about 28% of the mass of this tissue. In other words, the dentine is composed of 72% of inorganic matter, and 28% of organic matter. Bone is composed of 66.50% of inorganic matter, and 33.50% of organic matter.

The central pulp is the organ of nutrition and sensation for the dentine and enamel, while the peri-cementum performs the same office for the cementum, and gives attachment of the tooth to the alveolus of the jaw. In other words, in this respect it is an articular membrane forming the dento-maxillary joint.

Sepsis produced by devitalized teeth and necrosed bone is generally considered as being one of the most virulent of all forms of sepsis having their origin in the tissues of the living body. With these statements before us, let us now turn to the consideration of the various classes of septic teeth.

(a) Teeth which have lost their pulp vitality and contain gangrenous pulps.

This is a very common condition in the mouth of individuals who are afflicted with rapid decay of the teeth. When dental caries reaches the central pulp, it exposes this organ to various forms of irritation, especially to the pyogenic micro-organisms. These irritants produce congestion and inflammation, which soon results in the death of the pulp, a gangrenous condition. The saphrophitic micro-organisms then attack it; liquefaction of the tissues takes place, and the material is usually discharged into the mouth through the cavity of decay and is swallowed. When the material is not discharged into the mouth, the condition designated as class (b) is usually developed.

The predominant micro-organism present in a gangrenous pulp is the *B. pulpæ gangrenosæ* of Arkovy, an exceedingly virulent organism, as you would soon realize should you be so unfortunate as to wound a finger with an instrument that had been in recent contact with such a pulp.

Prof. W. J. Gies and his collaborator, I. J. Klinger, have recently reported—December, 1915, in the *Journal of the Allied Dental Societies*, Vol. X, p. 454, having found the same, or similar organism in gangrenous dental pulps. They say:

"In decay of the pulp . . . the cocci remain low in proportion; the thread forms almost disappear. The non-spore-forming rods continue to be quite as numerous as they were in the primary stages of caries, but a new form—an anerobic, putrifactive, spore-bearing rod—was found in large numbers." This organism they designate *B. putrificans*.

The virulence of this organism and its frequent presence in devitalized teeth has raised this question in the mind of your essayist, and is now presented to you for your consideration. May not this gangrenous condition of one or more dental pulps discharging into the mouth of an individual and constantly swallowed be one of the causes of ulcer of the stomach, induced by infection through some slight trauma of its mucosa? It has been my observation that individuals who are suffering from ulcer of the stomach usually have neglected mouths and many badly decayed teeth. Your essayist is, therefore, inclined to the opinion that

* Read before the San Francisco County Medical Society, February 8, 1916.

gangrenous pulps, by reason of the great virulence of the organisms found in this disease, may approach the condition of a specific cause of ulcers of the stomach. Of course, the question of proof, absolute proof of this assumption, would require team work in research upon the part of the bacteriologist, the internist, the surgeon and the oral specialist. This, we have not yet had the opportunity to carry out.

A very large majority of the micro-organisms that enter the stomach are destroyed by the action of the gastric secretions. Certain pathogenic organisms, however, are very resistant to the action of these secretions; for instance, the bacillus tuberculosis, the bacillus coli communis, the bacillus typhosus, the spirillum of Asiatic cholera and others. This is probably due to the fact that they possess a very resistant external covering or envelope which is not affected by the gastric secretions. The bacillus pulpæ gangrenosa is evidently a saprophite, as it is only found in the dental pulp when this organ is in a decomposing or putrefying condition.

Treatment of Class A Teeth. The usual treatment for a tooth in this condition is the extirpation of the gangrenous pulp, sterilization of the pulp-canal and the dentinal tubuli and their contents and, later, hermetically sealing the canal and the cavity of decay with a suitable filling material. This would render such a tooth entirely innocuous. This is not, however, always possible for various reasons; viz., the small size of the canal, occlusion of the canal at some portion of its length, or abrupt curves or angles in the form of the root.

Teeth, the canals of which cannot be opened to their root-apex (and the X-ray picture will indicate that), should be extracted, as all attempts to place such teeth in a healthy condition will be fruitless.

No up-to-date dental surgeon or oral specialist will to-day neglect to employ the X-ray as a means of diagnosis in these cases.

(b) Teeth which, by reason of containing devitalized pulps, in whole or in part, are producing chronic peri-apical irritation.

Peri-apical irritation in these cases is due to septic micro-organisms which have passed from the pulp-canal into the peri-apical tissues. The irritation may be mild or severe in character, depending upon the number and the virulence of the organisms present, upon the one hand, and upon the vital resistance of the tissues and the phagocytic activity of the white blood-cells upon the other.

In the milder cases the irritation assumes a chronic type, which usually results in certain changes in the surrounding bone structure known as rarefying osteitis, or osteo-porosis, or in the formation of a mass of fungus granulation tissue—an infectious granulation tumor; or of a blind abscess, surrounded by a more or less extensive area of bone resorption; while in other cases it may produce hypertrophy of the external alveolar plate overlying the infected area.

Upon the extraction of such teeth the granuloma, or the abscess sac, as the case may be, frequently

comes away attached to the apex of the root. Teeth in this condition may go for months or years without causing any objective symptoms other than an occasional slight soreness following a cold, or of unusual stress applied in mastication, like biting upon a piece of bone, or a bird-shot.

This form of dental sepsis and that designated as (d) class are, by reason of their insidious character and chronic type, among the most dangerous to the general health.

These are the conditions that are so often found associated with articular rheumatism, arthritis deformans, neuresthenia, neuralgias, neuritis, certain forms of nephritis (septic), the "septic gastritis" of Hunter, myocarditis, endocarditis and pericarditis.

You are all familiar with the researches of Billings, Rosenow, Hartzel, and others along these lines, so I need not take up your time by quoting from their work. It seems, however, to be an established fact that dental sepsis is a condition that must not be overlooked when searching for a rational explanation of the causes of the diseases just mentioned.

In the severe type of irritation of class (b) the condition rapidly progresses to that of class (c) in which a dento-alveolar abscess is formed.

In the treatment of the chronic type of class (b) the first step is to secure a good X-ray picture. We say "good" because there are so many bad ones made; so bad that one may read into them almost any fallacy which, at the time, may obsess the mind. With this good picture the conditions of the case are as plain as an open book. The important question to be decided is—what shall be done with these teeth? Shall they be extracted? We answer not in every case. In fact, many of them can be successfully treated, *cured*, and rendered innocuous and serviceable for many years. There is, however, a growing tendency upon the part of many physicians to advise the extraction of all devitalized teeth. This, we believe, is a mistake, in view of the fact just stated. The conservative dentist will not attempt to treat one of these teeth if the X-ray picture reveals an apparently insurmountable obstacle in the form of the root and its canal; or in which there is a considerable involvement of the surrounding bone. Under such circumstances, the tooth should be extracted and, if the bone were involved, this area should be thoroughly curetted.

The teeth are valuable organs, and man is only endowed with two sets, consequently, the unnecessary loss of even one permanent tooth is a serious matter; but, on the other hand, the health of the individual is of more consequence, and of more value than many teeth. Wisdom and conservatism have no better place for their exhibition than in this connection.

(c). Teeth which are devitalized and, by reason of the septic condition of the root-canal, are causing a dento-alveolar abscess, acute or chronic.

Teeth of this class, when the abscess is of the acute type, are exceedingly dangerous to health and not infrequently end fatally from

acute septicaemia. When the abscess is of the chronic type it may give rise to a low grade of general sepsis, resulting in such diseases as those just mentioned under class (b).

The *Bacillus pulpae pyogenes* of Miller is generally thought to be the organism responsible for the establishment of acute dento-alveolar abscess. It is found in decomposing and gangrenous pulps and in putrescent root-canals. It is exceedingly virulent. White mice, when inoculated with it by injection into the peritoneal cavity, die in from 18 to 20 hours.

When a tooth is the seat of an acute dento-alveolar abscess, there is always a considerable involvement of the bony structure at the apex of the root, and, sooner or later, the abscess points through the external plate of the alveolar process, generally toward the lip or cheek, or it may seek an exit along the side of the root, discharging at the margin of the gum. Occasionally it points toward the tongue, this more often in the lower jaw than the upper for reasons that are patent. Sometimes the swelling is very great. When associated with the upper jaw it not infrequently closes the eye; and when located in the lower jaw, in the region of the molars, it may be so extensive as to make deglutition impossible, and greatly obstruct breathing. This condition is sometimes erroneously diagnosed as Ludwig's Angina.

A chronic dento-alveolar abscess is usually the sequel of an acute abscess which has established a fistula. These conditions, if untreated, may persist for months or years without causing any alarming objective symptoms. There is generally a constant discharge of pus into the mouth, and the predominant micro-organism present is usually the *streptococcus viridans*. This is the organism which, according to Billings, Rosenow, Hartzell and others, seems to be the chief factor in the production of so many of the diseases which we now know have a septic origin.

The treatment in the acute cases, if the temperature goes above 100° F. should be immediate evacuation of the pus, if it can be reached, or failing in this the extraction of the tooth. Acute septicaemia is to be feared if prompt removal of the focus of infection is not obtained.

(To be concluded in November, 1916.)

ROCKY MOUNTAIN SPOTTED FEVER— ITS PREVALENCE AND DISTRIBUTION IN MODOC AND LASSEN COUNTIES. CALIFORNIA—A PRELIMINARY REPORT.

By FRANK L. KELLY, M. D., Gr. P. H.,

Assistant Epidemiologist of the Bureau of Communicable Diseases, California State Board of Health,
Berkeley, California.

Acting under instructions from Dr. J. G. Cumming, director of the Bureau of Communicable Diseases, California State Board of Health, I made in May, 1916, an investigation in order to determine the prevalence and geographic distribu-

tion of Rocky Mountain spotted fever in Modoc and Lassen Counties. Although for several years the disease has been known to be present in the northern part of the state,^{1 2 3 4} this was the first attempt made to definitely establish its existence and to study its distribution. The information was obtained from personal observations of cases, from interviews with physicians, and from replies to letters sent to each physician in Modoc and Lassen Counties. I wish to acknowledge with thanks the hearty co-operation received from the physicians in both counties, and to particularly thank Dr. W. E. Dozier, County Health Officer of Lassen County, through whose courtesy I was enabled to see four cases of this disease.

The first case seen was of a mild type. The patient, C. A., a former State Board of Health Inspector, contracted the disease in Secret Valley, ten or twelve miles west of the California-Nevada line. When seen by me, he had been ill for about ten days and gave a history typical of Rocky Mountain spotted fever. About a week after being bitten by ticks, the evidence of which was still present at the time of my inspection, he was taken with a severe headache, intense pain in the muscles and joints, particularly in the wrists, ankles and calves, a chill, a slight rise in temperature, and obstinate constipation. The muscle and joint pains grew worse, his temperature increased, and at times he became slightly delirious. On the third day, a macular roseolar eruption appeared over the forehead and upper thorax, followed in about twenty-four hours by the characteristic petechial eruption. When seen by me the rash consisted of a petechial eruption covering the whole body and involving the forehead, scalp, palms of the hands and soles of the feet. The hemorrhagic spots were for the most part discrete and had become confluent only in a few places. His temperature when seen was 101° and the maximum had been 103.6°. Dr. Dozier stated that this was a mild case and that commonly the temperature reached 105° and 106°. He said also that the eruption often became confluent with severe hemorrhages into the skin.

The second case was seen only in the prodromal period. The patient was a sheep herder who passed through Susanville on his way to Reno. When seen by Dr. Dozier and myself this man showed no signs of the disease excepting the evidence of tick bites and the beginning of a macular roseolar eruption over the forehead and chest. Unfortunately the patient could not be kept under observation so that a positive diagnosis was impossible. However, he had when seen, the usual prodromal symptoms of chilliness, headache, pains in his muscles, joints and bones, slight increase in pulse and respiration, slight rise in temperature, constipation, and general malaise. The infection was contracted in the Willow Creek District.

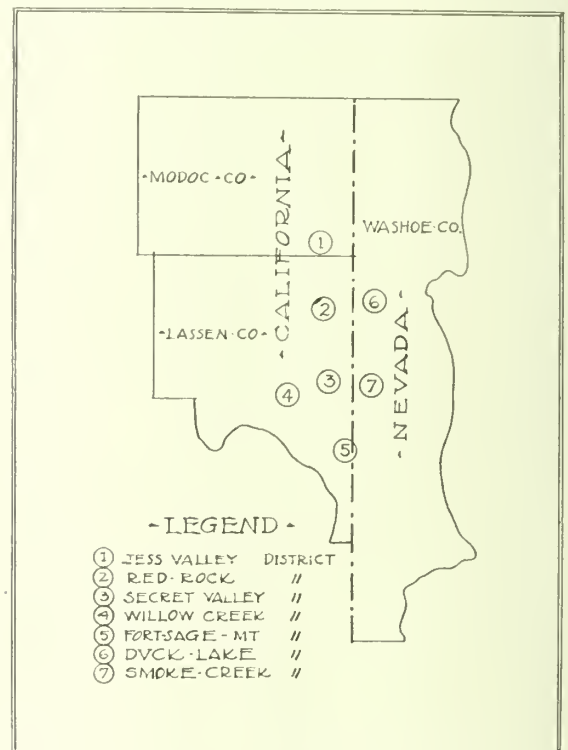
The next patient was R. F. H., another State Inspector, who was in the early stage of the disease. This patient, who also had contracted the disease in the Willow Creek district, had been ill for about a week. For several days he

had felt slightly indisposed but had kept at his work. Then he had been taken with a feeling of chilliness, severe headache, and severe muscle, bone, and joint pains. He had been able to be up and around for several days more, but three days before I saw him, he had gone to bed on account of the pain, headache and general malaise. When seen his temperature was slightly elevated, the body pains and headache were very severe, and there was a faint macular roseola over the face and chest. The patient was sent at once to the University of California Hospital in San Francisco. After his arrival there he did not develop a typical case of the disease as his temperature dropped to normal and remained so, and the typical petechial eruption did not appear. However, I feel that the typical prodromal symptoms following tick bites received in a region known to be infected, and the high large mononuclear count^{5,4} (12% and 18% on two different counts) make justifiable the diagnosis of Rocky Mountain spotted fever. Typhoid and paratyphoid were ruled out by blood cultures and by agglutination tests. The fact that the petechial eruption did not appear does not invalidate the diagnosis, for a type of the disease in which the eruption is lacking is not uncommon. Wilson and Chowning⁶ said that, "Several physicians, however, recognize in addition a mild type in which there are no 'spots,'" and, "That such cases exist there can be no doubt," while Ricketts⁷ stated that, "Those that have had the greatest experience with the disease in man recognize a mild type in which the characteristic eruption is absent."

The fourth case was that of Mrs. S., who contracted the infection in the Fort Sage Mountain district. At the time I saw the patient in company with Dr. Dozier, all of the acute symptoms had subsided and her temperature had been normal for several days. However, the eruption was still present and was much worse and more marked than in any of the other cases. The spots were so numerous that there was hardly a place on her body or limbs where a fifty-cent piece would not have covered one or more of them. In many places the eruption had become confluent with the formation of large ecchymotic spots. Mrs. S. gave a history of a single tick bite received eight days before the beginning of her illness, and had had a typical case of the disease.

That at least three of these cases were Rocky Mountain spotted fever and that the disease does exist in California, I think there can be no doubt. The absolutely typical histories, the fact that the disease comes on only after the patient has been bitten by ticks, the characteristic eruption in most of the cases, and the seasonal and geographical distribution make the diagnosis unquestionable. Typhus fever, with which it is most liable to be confused, is ruled out by the fact that Rocky Mountain spotted fever occurs only in the spring and early summer, corresponding exactly with the tick season and in contrast to the winter prevalence of typhus, that it is rural rather than urban, that it occurs in persons not

infested with lice, and that it is in no way associated with poverty, filth, or congestion. Typhus is still further eliminated by the fact that associates, attendants, and close contacts with patients suffering with Rocky Mountain spotted fever do not contract the disease, and so far as my investigation has gone I can agree with the statement of Anderson⁵ that, "Two cases of spotted fever have never been known to occur in the same family the same season." The differentiation from the other exanthems is easily made by the fact that Rocky Mountain spotted fever is never contagious at any stage of the disease no matter how close the contact with non-immunes,



and by the character and distribution of the eruption.

This disease was first recognized in California by Drs. Coppedge and Gibson of Alturas, Modoc County, in 1903. At that time Dr. Gibson wrote a short article for the local newspaper and so far as I have been able to find out this is the first published account of the disease in California. Dr. Gibson also has a photograph of a patient taken at the height of the eruption, which is confirmatory evidence that the diagnosis was correct. It was not until 1908 that the disease was discovered in northern Lassen County by Dr. Kennedy of Eagleville, Modoc County, and three years later that Dr. Dozier of Susanville, Lassen County, diagnosed the first case in the southern part. Altogether I have had reports on thirty-eight cases, six in Modoc County and thirty-two in Lassen. These cases were reported to me as follows: Dr. Dozier, Susanville, 16; Dr. Kennedy, Eagleville, 11; Dr. Drucks, Susanville, 2; Dr. Walsh, Susanville, 2; Dr. Sanderson, Lassen,

1; Dr. Gibson, Alturas, 4; Dr. Coppedge, Alturas, 1; Dr. Stiles, Alturas, 1. The following table shows the distribution and mortality of the cases by years:

	Modoc		Lassen	
	Morbidity	Mortality	Morbidity	Mortality
1903	1			
1904	1	1		
1905				
1906				
1907				
1908			1	1
1909	1		2	
1910				
1911			3	1
1912	1		3	1
1913			2	
1914			2	
1915			11	2
1916*	2		8	
Total	6	1	32	5

* Figures for 1916 not completed.

From the above table it is seen that of the six cases in Modoc one died, and of the thirty-two in Lassen five terminated fatally, giving a mortality of about sixteen per cent. Thus the type of disease in California is apparently not so severe as in the Bitter Root Valley of Montana,^{6, 1} where the mortality is approximately seventy-five per cent., nor as light as in Idaho, where the mortality is three to four per cent.

The infected areas in Modoc and Lassen Counties were located as far as possible. The six cases reported in Modoc all contracted the disease in Jess Valley, a small valley lying close to the Modoc-Lassen border and just west of the Warner Range of mountains. The thirty-two cases reported in Lassen were infected in four different districts. Four contracted the disease in the Fort Sage Mountain district in the southeastern part of the county, seven in the Willow Creek district in the central part, eight in the Secret Valley district in the east central part, and twelve in the Red Rock or Madeline Plains district in the northeastern section. One case, which occurred in 1914, seems to have contracted the disease within the town of Susanville. If this is so, this case does not fall into one of the four districts, but as this is the only infection reported in Susanville, I feel that either the history was not gone into carefully enough or, what is more probable, that a tick was carried in from one of the infected areas. This could easily have been done by a herder or other person from the Willow Creek district, for which Susanville is the purchasing center. Persons from this district frequently come into Susanville with their dogs, so that the infected ticks might easily have been brought into the town.

That these districts may not be definitely located and that they may have to be changed after a more thorough investigation is admitted. However, all of the information so far collected seems

to confine the infection to these five areas and it remains for future investigation to either confirm or disprove this hypothesis.

From Fricks'³ map one might be led to infer that the disease came into California through Oregon. This map shows infected areas in both Klamath and Lake Counties, Oregon, which border Modoc on the north. While the disease undoubtedly does exist in these counties, it is to a much less extent than in Baker, Crook and Grant Counties, and these foci of infection are 180 miles from the California border. Fricks does not give any infected area, either on the map or in the text in Washoe County, Nevada, but from recent reports it would seem that there have been at least ten cases in this county. These cases were infected in the Duck Lake and Smoke Creek districts. As the Red Rock and Secret Valley districts in Lassen County are just west of these districts and are in fact continuous with them, it seems highly probable that the disease reached California along this route rather than from Oregon. This supposition is further borne out by the fact that no cases have been reported from northern Modoc bordering the Oregon line.

While in Lassen County the Willow Creek and Secret Valley districts were visited and ticks collected. These were identified as *Dermacentor andersoni* (Stiles), the chief transmitter of Rocky Mountain spotted fever, and the classification was confirmed by Dr. K. F. Meyer, Associate Professor of Tropical Medicine in the Hooper Institute for Medical Research. Since my return, ticks of the same species have been sent me from the Fort Sage Mountain district. This agrees with the findings of Bishop⁸ and of Hunter and Bishop,⁹ who reported in 1911 the presence of this tick in Modoc and Lassen Counties, California.

It is hoped that further investigations will be carried on next spring when the epidemiology can be more thoroughly worked out, the best methods of tick control for these district decided upon, and laboratory studies of the virus carried on.

CONCLUSIONS.

1. Rocky Mountain spotted fever has existed in California for a much longer period and to a far greater extent than has hitherto been supposed.
2. There are probably five main infected areas, one in Modoc County and four in Lassen.
3. The disease is not as severe in California as in Montana, nor as light as in Idaho.
4. The infection probably entered California through Nevada rather than Oregon.

Bibliography.

1. Rucker, W. C.: Rocky Mountain spotted fever. Pub. Health Rep., Wash., Vol. XXVII, p. 1465, 1912.
2. Fricks, L. D.: Rocky Mountain spotted fever. A report of its investigation and of work in tick eradication for its control during 1913. Pub. Health Rep., Wash., Vol. XXIX, p. 449, 1914.
3. Fricks, L. D.: Rocky Mountain spotted fever. A report of its investigation and measures undertaken for its eradication during 1914. Pub. Health Rep., Vol. XXX, p. 148, 1915.
4. Michie, H. C., Jr., and Parsons, H. H.: Rocky Mountain spotted fever—Report of an investigation in the Bitter Root Valley of Montana. Med. Rec., New York, Feb. 12, 1916.

5. Anderson, J. F.: Spotted fever (tick fever) of the Rocky Mountains, a new disease. Hyg. Lab., Wash., Bull. No. 14, 1903.
6. Wilson, L. B., and Chowning, W. M.: Studies in *Pyrophosphosis hominis* ("Spotted fever" or "tick fever" of the Rocky Mountains). Jour. Infect. Dis., Vol. I, p. 31, 1904.
7. Ricketts, H. T.: The Study of Rocky Mountain spotted fever by Means of Animal Inoculations. Jour. Am. Med. Assn., Vol. XLVII, p. 33, 1911.
8. Bishop, F. C.: The Distribution of the Rocky Mountain spotted fever tick. U. S. Dept. Agric., Bur. of Entomology, Circ. No. 136, 1911.
9. Hunter, W. D., and Bishop, F. C.: The Rocky Mountain spotted fever tick. With special reference to the problem of its control in the Bitter Root Valley in Montana. U. S. Dept. Agric., Bur. of Entomology, Bull. No. 105, 1911.

THE CONSIDERATION OF RECTAL AND COLONIC DISEASE IN LIFE INSURANCE EXAMINATIONS.*

By ALFRED J. ZOBEL, M. D., San Francisco.

When making a life insurance examination the careful examiner does not rely upon any of the applicant's statements regarding his present physical condition, but by inspection he notes whether the general appearance is healthy or unhealthy; by inspection, palpation, percussion and auscultation he secures accurate information concerning the heart and lungs; by examination of the reflexes, etc., he seeks evidence of disease or functional derangement of the brain and nervous system; by palpation and with the sphygmomanometer he determines the condition of the blood vessels; by an urinalysis he sees if the kidneys and bladder are free from any tendency to disease; by the thermometer he notes the untoward rise in temperature which betrays latent disease; and by the scales and the tape he finds variations from normal in weight and measurements. All this important data is obtained only by direct examination and by precise methods.

It is evidently not deemed of much importance by the life insurance companies, that their medical examiners need determine accurately the condition of the rectum and colon—not to mention the balance of the alimentary canal—for they seem willing to assume that these organs are free from disease solely from the favorable answers given by the applicant to routine printed questions asked by the examiner. That this is a fallacy, inasmuch as it paves the way to the acceptance of poor risks, and occasionally to the rejection of a good one, I shall endeavor to show in this paper.

Among the routine questions which the applicant is required to answer are: "Have you now or have you ever had, (1) chronic diarrhœa; (2) a fistula, or any disease of the rectum." The replies to these queries might perhaps be taken at their face value were it not for several adverse reasons. One is that the answer may be given honestly, but is often not worthy of consideration on account of the applicant's ignorance of what is really meant by the question. Another is that the questions are usually asked perfunctorily, and even casually, by the examiner, and are answered—almost invariably in the negative—in a like manner by the applicant.

In a fairly long experience, as an examiner, I can recall only one time when I received an affirmative reply. That was from a man 54 years of

age. He freely volunteered the information that he had bleeding from his rectum, at intervals, for a number of years. He was otherwise safely insurable. A recto-sigmoidoscopic examination showed the presence of small hemorrhoids only. He was accepted by the company upon my statement that there was no malignancy, and that the hemorrhoids were not such as to demand an operation.

This remarkable absence from recto-colonic troubles in applicants for insurance is rather surprising. One would imagine that the proportion of sufferers from these ailments would be about the same among them, as among other persons seen in family or general clinical practice. The suspicion therefore arises that perhaps the main reason for the general denial is the ease with which these affections can be concealed from the examiner unless he makes an examination.

As an illustration, I recollect the case of a gentleman who was at the time under my care for an amebic colitis, yet he passed an examination and received a policy. Though previously having suffered for many years, he could be freed for long periods from all symptoms of the disease by a course of emetin injections. Still at intervals there were sharp recurrences. During a time when the disease was quiescent he passed the examination. It is probable that had more attention been paid to the questions and answers concerning the condition of his bowel and rectum, the suspicions of the examiner would have been aroused. If a rectal examination had been made, the presence of the disease would have been discovered, for at no time was the rectal mucosa without some evidence of amebic ulceration.

It cannot be said that this man was entirely at fault in the matter. While it is true that he had the disease for years, still, being a layman, he thought he was practically cured when his dysenteric symptoms yielded so readily to a few injections of a seemingly harmless drug, and particularly so as he otherwise felt and looked in the best of health. A history of former dysenteric attacks naturally was of no importance in his mind, so he could see no reason voluntarily to acquaint the examiner with all the facts about himself, especially as no very great effort was made to secure that information.

As amebiasis has been considered a disease which is met with only in the tropics, or in certain localities in our southern states, outside of these zones the average practitioner is not apt to consider the possibility of its presence. But those who are interested in recto-colonic diseases have learned that individuals who never have been in any of these localities often become infected; that amebiasis occurs more commonly than is generally suspected, and that the organism may be harbored in persons whose outward appearance shows no evidence of it.

It is common knowledge among rectal surgeons that the average individual knows little about his ano-rectal region, and that no matter what the pathological condition in his rectum may be, he generally attributes every symptom to "a slight attack of piles." Unless there is severe pain or itching, alarming bleeding, or annoying dysentery,

* Read at the 18th annual meeting of the American Proctologic Society, in Detroit, Mich., June, 1916.

he thinks it of little importance and unworthy of any attention.

Patients not rarely come under observation who look and feel in the best of health (outside of their "little attack of piles"), yet who are found victims of well-advanced malignant disease of the rectum or colon, which in all probability will soon end their days. The growth has progressed so insidiously that outside of a little bloody and mucous discharge—which seemed but a trifling matter—no other symptoms betrayed the presence of the deadly destroyer. These individuals sometimes honestly disclaim any loss of weight. They appear to be healthy otherwise, so that a life insurance examiner not learning of their "little attack of piles," would find nothing to cause him to reject the risk.

I am not in possession of any statistics on the subject, so I am unable to quote what percentage of those insuring at the age of 30 years and over, have died from cancer of the rectum, say within the first five years after their policy was issued. I presume that the total number of deaths from rectal cancer, even among all who took out insurance at any age, is indeed very small. Yet the question might be asked whether it could not have been possible for the examiner to have saved his company from some of these losses if more consideration had been given to the possibility of the applicant having some rectal disease at the time the examination was made.

As I have said before, it is quite surprising how little the average person is concerned about any ano-rectal trouble, unless the symptoms are very annoying. A little fistulous tract which causes no pain and discharges but little secretion, is never considered to amount to anything. That they ever had a marginal abscess from which the fistula had its origin often is forgotten. But it is exactly such a type of fistula which is most apt to be tubercular, and a person having it would be a far worse risk for the insurance company than one having a fistula of a florid type which was the remains of a well-marked ischio-rectal abscess. I have seen a number of these cases in otherwise apparently healthy individuals, where small marginal abscesses were followed by a little fistulous tract persistently discharging a very slight amount of thin secretion. I recall that in one of these cases the tubercle bacillus had been found in the sputum. He had no active symptoms and was apparently healthy. He was passed by an examiner who, so the applicant informed me, did not ask if he had ever had any rectal trouble. Should this man die later of tuberculosis, probably no blame will be attached to the examiner, yet the company could have been saved an exceedingly bad risk had a rectal examination been made and the condition recognized.

Many competent observers, according to Tuttle, believe that fistula is frequently the primary manifestation of tuberculosis, and that when the disease limits itself to the ano-rectal area it may remain localized for long periods of time. The same author stated that in his experience nearly 50 per cent. of the fistulous that had come under his observation in the different hospitals with which he was connected have either suffered from tuberculo-

sis at the time or afterwards; and, further, that fistula in the tuberculous is much less frequent proportionately than tubercle in the fistulous.

All of us, I apprehend, have seen severe strictures of long standing in the rectums of individuals who otherwise appear in good health. Outside of difficulty in securing a bowel movement—unless they take a cathartic which will liquify their feces—they suffer from no other symptoms. About a year ago I saw a case in which, when the examining finger was inserted into the rectum, it was stopped by a hard fibrous stricture about an inch above the sphincters. The opening was so small and so rigid that, in order to examine above, it necessitated the use of a number 24 urethral speculum. The man was outwardly perfectly healthy and insurable, but in all probability the time was near when the stricture would so close up the bowel that nothing would be able to pass through, and it would be necessary to make an artificial anus. If this man desired to take out a life insurance policy, and had failed to mention his condition, he could have passed readily any insurance examiner who failed to make a rectal examination.

The insurance company does not require a routine rectal examination, but most likely it expects the examiner to make it if there be the slightest reason therefor. Failure to do so results from a dislike for the task, or from inability to do it properly, or, perhaps, from both. The dislike usually comes as much from laziness as from repugnance. The inability often arises from a knowledge of incompetency to interpret the findings. Teaching postgraduate students has shown me that there are many physicians whose knowledge of the recto-colonic region is almost as woefully lacking as is that of the layman. Most of them believe that hemorrhoids, if not seen protruding, can at least be felt. When told that even large piles may exist and still not be felt, nor seen, unless forced into view, it is news to them. Of course, that an applicant has hemorrhoids and nothing else is not sufficient grounds for not passing him, but if they are found it may mean that some other condition may exist which would constitute a good cause for rejection. It must not be forgotten that hemorrhoids often accompany liver, spinal cord, genito-urinary and uterine disease.

On the other hand, a suspiciously anemic appearance of an applicant might be the only reason for his rejection. If, on query and by examination, the anemia would be found due only to the constant oozing of blood from hemorrhoids, the rejection need not be absolute, but a recommendation could be made that the application be held in abeyance for some months, or until a time when the applicant regains his normal condition, which he generally begins to do soon after the removal of the hemorrhoids.

It is perhaps true that an examiner is not expected by his company to ferret out the causes of the condition for which the applicant is rejected, nor is it his duty to suggest a remedy therefor. However, it seems to me that if the cause is recognized during the course of the examination, and

it is of such a nature that some minor operative procedure or other line of treatment would restore the applicant to a safely insurable condition, then it ought to be the duty of the examiner gratuitously to offer a suggestion as to how it could be remedied, for by so doing he conserves business to life insurance which would otherwise be entirely lost to it.

In a book of instructions, written by the chief medical examiner of a certain company and issued to its medical examiners, it is urged upon the latter that they try to put the applicant at his ease by assuming a confidential attitude towards him, and gradually to draw out the desired information during the course of casual conversation, rather than by directly plying the set questions. The suggestion might be offered that at such a time the applicant could be asked about the state of his bowels. If constipation exists, especially in a person over forty years of age, it would be a wise procedure to investigate a little further. While it is true that in the very great majority of instances the cause is purely functional, once in a while a condition may be found which makes the risk a poor one. Little importance is paid to the question of chronic intestinal stasis by life insurance companies. This is hard to understand, for most of these cases are accompanied by intestinal auto-intoxication, and many of us believe with Boardman Reed that, "when we except the exanthema, malaria, syphilis, tuberculosis, and the diseases caused by traumatism, by metallic poisons, and by a few other toxic agents or infections from without, practically all the remaining maladies which afflict us and cut short our lives are now directly or indirectly traceable to auto-intoxication."

In otherwise good risks whose blood pressure is higher than it should be, perhaps, if inquiry would be made, the cause might be found in a chronic intestinal stasis. Only recently I saw a man of 39 years who, two weeks previously, had been rejected for insurance on account of a blood pressure of 180 m.m. He became much alarmed, and consulted his physician, who, carefully examining him, could find no cause for the hypertension outside of it, perhaps, resulting from a chronic constipation which existed since boyhood, and which, although it caused at times some severe autotoxic symptoms, had been given no attention. Under strict diet no drop in blood pressure resulted. He was then referred to me for colonic irrigations. Within a month it was down to 145 m.m., and he was then accepted by a second company. Here is an instance where a good risk could have been lost entirely to the life insurance business. To my way of thinking an individual like this becomes a particularly good risk just because of his previous rejection. The scare he received leaves an indelible impression, and brings home emphatically a realization of the necessity for keeping in the best of physical condition, so that thereafter that person is far more careful about himself than one who has passed easily an examination and feels so secure about his

present good health that, having no warning as did the other, he may neglect himself in the future.

In the medical examiner's report is included the question whether the bladder and urinary organs are in a healthy state and free from any tendency to disease. Probably most examiners base their answer to this upon their urinalysis. If a rectal examination were made, however, this question could be answered far more authoritatively, for then the prostate gland could be examined at the same time, while any enlargement of the testicles from tubercular or malignant disease also could be discovered.

An anus remaining patulous after withdrawal of the examining finger or instrument will suggest possible involvement of the spinal cord in a syphilitic process. As it may be one of the earliest signs of locomotor ataxia, its recognition will save the company from assuming an absolutely bad risk. The applicant perhaps may be entirely honest in his assertions that he has no knowledge of syphilitic infection, and may otherwise appear as a first-class risk.

The proportion of women to men examined for life insurance is quite small. Insurance companies do not demand an examination of their generative organs, but accept their answers to the questions whether they ever had any uterine or menstrual disorder, if the uterine functions are now regular, and if pregnancy now exists. It can be appreciated why a woman might object to a pelvic examination and would rather forego the benefits of insurance. However, in my experience, they rarely object to a rectal examination, especially when an office nurse assists. During the rectal examination the condition of the uterus and its appendages can be noted; should there be a tumor it can be felt; and pregnancy, both normal and extra-uterine, can be made out, if existent.

In conclusion, the suggestion is offered that medical examiners should lay more stress upon those questions regarding the condition of the bowel and rectum. Just as they are particular in asking whether the applicant "has or ever has had spitting or raising of blood," so should they enquire as carefully whether there is, or ever has been, a sanguinous, purulent or mucous discharge from the rectum. A history of chronic constipation or of diarrhoea also should be considered worthy of further investigation. A rectal examination, both digital and instrumental, should follow if there is need therefor, or whenever there is the slightest suspicion that by it something may be revealed.

In the business world the slogan of the day is, "efficiency." In the eyes of the public that life insurance company is the most "efficient" which, having the lowest death loss returns to its policy holders the largest dividends. That medical examiner is the most "efficient" who not only secures his company from poor risks, but also saves it business which otherwise would be lost. That the utilization of rectal examinations helps attain "efficiency," I trust has been demonstrated in this paper.

RESUMÉ OF EPIDEMIOLOGICAL INVESTIGATIONS OF EPIDEMICS OF POLIO-MYELITIS WITH REFERENCE TO CONTAGIOUSNESS.*

By J. C. GEIGER, M. D., Assistant Director and FRANK L. KELLY, M. D., Assistant Epidemiologist, Bureau of Communicable Diseases of the California State Board of Health, Berkeley.

The present epidemic of acute anterior poliomyelitis in New York City with the possible danger of its spread to California makes it necessary that we consider the vitally important epidemiological data that has been gathered in the various outbreaks of this disease. We may preface this discussion by stating that to no one factor can the spread of the disease in a community be absolutely attributed. It is for this reason that the methods of prophylaxis and control are largely theoretical and indefinite. Nevertheless we are justified in using every means at our disposal for the protection of the public.

Contagiousness. Various investigators have proven conclusively that the disease is caused by a filterable virus, which is present in nasal and bucal secretions, and also in the intestinal contents. Quoting from Hill,¹ Minnesota, "If the infective agent escapes by way of the naso-pharynx any great actual infectiveness developed should parallel diphtheria, scarlet fever, or possible pneumonia, in its epidemiologic characteristics. If by the intestine, it should parallel more or less closely the infectiveness of typhoid fever. If poliomyelitis does not parallel any of these, it would seem uncalled-for to insist on its great contagiousness.

"Further studies must determine such points. I can personally vouch that poliomyelitis is not prevented from spread, at least so far as the cases here discussed furnish evidence, by care in controlling the discharges, for precautions so efficient as to prevent the spread of the disease from the patient to other members in the house through the discharges, were not taken as a rule."

Again Hill¹ states "that 292 families containing 1670 members, an average of 5.7 members per family, presented 292 initial cases. In 257 families no further case occurred, but in 35 families the initial case was followed by others, whether occurring on the same day or later." The secondary cases were as follows: 30 families, 1 additional, 4 families, 2 additional, and 1 family, 3 additional.

Francis,² reporting an epidemic in Texarkana and vicinity, states: "In one instance there were three cases in the same family. In three instances there were two, and in each of the other 139 families there was but one case."

Kelly, Gilhorn, and Manning,³ reporting poliomyelitis in the State of Washington, state "that throughout the progress of the investigation special attention was directed to any instances of possible transmission." Out of 136 cases they report 120 families, 1 case, 8 families, 2 cases, and no families with more than 2 cases, and in only 23 cases were there any apparent transmission from person to person either by contact with an acute case, with a possible abortive case, or with contact by a third person.

In an epidemic reported in Kansas in 1909,⁴ out

of 58 families in which cases occurred only in 9 were there more than one case.

Dixon and Karsner⁵ reported that in Pennsylvania in 773 cases only in 59 was there a distinct history of exposure to previous cases, and in only 44 out of 1076 cases did secondary cases develop in the household.

Gundrum,⁶ reporting cases in California for 1910, 1911 and 1912, gives the percentage of contacts in adults as 1.3% and in children 7.2%.

Reporting poliomyelitis in Massachusetts in 1908,⁷ out of 67 cases in which there was little or no attempt at isolation, there being 166 children in families affected, only four of these later acquired the disease. In addition there were 86 children among neighbors and friends, making a total of 252 children exposed. In 1909, out of 86 cases in 79 families only two cases occurred in seven of them.

Frost⁸ reported that in Iowa in 1910 in 309 families in which cases occurred, these families containing 1900 members, there were 307 primary and 27 secondary cases. In Cincinnati in 1911 in 184 families, estimated to contain 920 members, there were 97 primary cases and one secondary. In Buffalo and Batavia, New York, in 1912, in families in which there were 1513 members, there were only 267 primary and 6 secondary cases.

Terriber,⁹ reporting an epidemic in Pennsylvania in 1907, stated that in 50 cases that occurred they were all in children and in every instance two or three cases appeared in the same family.

Shidler¹⁰ reported in Nebraska in 1909 that in a threshing crew in which one of the members became ill with the disease 7 others contracted it.

The School as a Factor in Contagiousness. Frost,⁸ in Mason City, Iowa, is quoted as follows: "If the disease is spread by contact in schools it was evidently very slightly contagious under the conditions existing in the schools. Assuming that one case in a school constitutes an exposure of all the children in that school, then in three schools in which cases occurred during the school term 1529 children were exposed to the infection, of whom only 7 (0.45%) subsequently developed the disease during or within two weeks subsequent to the school session. Considering only the children exposed to infection from a previous case in the same grade at school, 298 children were so exposed, of whom five later developed the disease. In Cincinnati 10 cases were distributed between nine different schools which 6053 pupils attended. There were no secondary cases. In Batavia, New York, in no instance were there two cases among the pupils of the same grade in a school. Of 26 cases 5 were attending school at the time of illness.

Langer¹¹ believes that schools are a source of infection and all possible measures should be taken to prevent the spread of the disease. He states that 60 cases occurred during the school year and 37 during vacation, but there were cases in children not attending school.

Wickman¹² states that in one town 16 or 18 cases originated from a single school house.

In the Monthly Bulletin of the Ohio State Board of Health,¹³ in summing up the epidemics that have

* Read before the Alameda County Medical Society, July 12, 1916.

occurred in Ohio there was stated that no single school was found to be a focus of infection.

Table of Cases of Poliomyelitis in California for 1913, 1914, 1915.

Year.	Cases.	Deaths.	Case rate per 1000.	Fatality per 100.
1913.....	90	33	.033	36.67
1914.....	56	26	.020	46.43
1915.....	62	19	.022	30.65

CONCLUSIONS.

Judging from the data reported above it would seem that either the disease is only slightly contagious or that there are many persons with a natural immunity or who acquire immunity without showing symptoms of the disease.

References.

1. Hill, H. W., M. D.—"Epidemiological Study of Anterior Poliomyelitis in Minnesota." (Reprinted from the Transactions of Section on Preventive Medicine and Public Health of the American Medical Association at the Sixty-first Annual Session, held at St. Louis June, 1910.)
2. Francis, Edward, Surgeon U. S. Public Health Service—Public Health Reports, August 15th, 1913.
3. Kelly, Gilhorn & Manning—Report of Infantile Paralysis in the State of Washington during 1910.
4. Bulletin of the Kansas State Board of Health, July, 1910, Volume 6, No. 7.
5. Dixon and Karsner. "Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylvania." American Journal Diseases of Children, October, 1911, Vol. 2.
6. Gundrum, Dr. F. F.—"Acute Poliomyelitis in California." California State Journal of Medicine, May, 1913.
7. "The Occurrence of Infantile Paralysis in Massachusetts, 1907-1912." Reported for the Massachusetts State Board of Health by Mark W. Richardson, M. D., Sec'y.
8. Frost, Wade H.—U. S. Public Health Service, Hygienic Laboratory, Bulletin No. 90, Oct., 1913.
9. Terriberry, Long Island Medical Journal, December, 1907.
10. Shidler, G. P.—"Epidemic of Spinal Disease in Nebraska." Journal of the American Medical Association, Vol. 54, No. 4, Jan. 22, 1910.
11. Langer, J.—"School as a Factor in Epidemic Poliomyelitis," Jahrbuch für Kinderheilkunde, LXXXVI 2, August, 1912.
12. Wickman—Heine-Medinschen Krankheit, Berlin, 1907, p. 150.
13. Monthly Bulletin Ohio State Board of Health, January, 1914, IV, No. 1.

SIR VICTOR HORSLEY.

An Appreciation.

By ANDREW STEWART LOBINGIER, M. D.,
Los Angeles.

Only a few weeks ago the scientific world was startled by a dispatch from the Far East telling of the death of Sir Victor Horsley.

During the early part of the war he had been in France. Later he was called to the base at Alexandria for the Gallipoli campaign. In a letter from there a year ago he mentioned a promotion to consulting surgeon, and in another letter from Bombay, received two weeks before his death, the distressing situation in Mesopotamia with its imperative need was vividly disclosed. Because this was the most demanding service, he generously responded to it regardless of the frightful conditions to which ultimately he succumbed.

How difficult it is to write calmly of such a sacrifice, even for the country he so dearly loved. The loss to science of such a mentality as Victor Horsley's is out of all proportion to any patriotic or humane demand of any country. His titanic genius belonged to the whole world and his constructive philanthropies were of all times most needed now.

Horsley's mind, in the clarity of its scientific vision, was of the mold of Darwin, Huxley and Tyndall. He surpassed his peers in that human warmth and fellowship which made him instant kin with all that suffered, however lowly their estate.

How often have we known of the generous instinct which thought it no hardship to go at any hour of the night to the most sinister haunts of squalor in Whitechapel or Soho to help some poor suffering creature. That was why he fell fighting for his fellowman in the glare of the killing heat along the Tigris. His dauntless spirit volunteered for the difficult and discouraging tasks before which weaker minds paled in fear.

It is unthinkable that the activities of this master mind are forever closed. For more than thirty years he was held by the profession to be easily the first authority on the surgery of the brain and cord. In truth it were no exaggeration to say he created brain surgery and made of it an organized scientific entity.

We cannot here recount the long succession of brilliant researches which singularly distinguished his career. He was made a fellow of the Royal Society at twenty-three. From that time on with a rapid sequence, unexampled in our guild, his honors came in crowding numbers. During his life and at his death his own countrymen rated him as England's first, most versatile and accomplished surgeon. Kocher, who of the Continental men knew him most intimately, so classed him in enthusiastic compliment. But in those whose rare privilege it was to know him as a personal friend, there developed a bond of affection akin to worship. He was so altogether lovable in his companionship, so incomparable in his hospitalities, so charming in sport.

Amongst the many tributes to Sir Victor's memory none has seemed to me quite so appealing and so true as that from Stephen Paget,* from which I beg his permission to quote freely:

"... Sir Victor Horsley's death neither shortens nor lengthens the war by one-half hour. That is true, but we might spend a half-hour to some advantage thinking of him and his work. Why St. Paul calls St. Luke the beloved physician I hardly know. St. Luke's medical knowledge doubtless was such as Browning in the epistle of Karshish attributes to an Arab physician of St. Luke's time. The phrase has become a kindly compliment to any doctor who is gentle and considerate to his patients, charitable in giving his thought and skill even to people who get them for nothing; honorable in the keeping of secrets and attentive to the happiness of the patient's family. There are legions and legions of beloved physicians at that rate. If that were the sum of our loss by Victor Horsley's death we should hardly need, as things are now, to think of him.

"I knew him for thirty years, thirty years of friendship unbroken and on my side unbreakable. There was nobody like him, nobody in his profession so strong in science and practice both together, with such a record of original work in physiology, pathology and surgery, with such passion for im-

* British Weekly.

provement and reform, such vivid enjoyment of life and of work.

"He was the greatest surgeon that we had, great alike in scientific research and in surgical dexterity. He was the acknowledged master and leader in that most laborious field of surgery, the operative treatment of the diseases and injuries of the brain and the spinal cord. At the very beginning of his career when he was at the Brown Institute he was the highest authority in England on the preventive treatment against rabies. Later came his admirable work on the thyroid gland which has helped to save mankind from the curse of myxedema and sporadic cretinism. I cannot draw out a list of his researches here. In the originality and width of range of his work he was greater than Lister. In the use of his imagination in science, that instinct or prophetic power which has been the making of some of the very greatest men in science, he was not far behind Pasteur. In the rush and intensity of his work, the fulness of each day's affairs, the high pressure under which he lived and died, the incessant strain which he put upon himself; in all these he was ahead of us, crowding into each day enough for two lives.

"It is a good thing to be able to remember well the look of his face, the sound of his voice and the sound of his laughter. He was singularly handsome; a very noble clear-cut, very sensitive face revealing swiftly what was in his mind. You might walk through London from end to end without seeing a face with so much distinction in it.

"The wonder of his life is that he was not content even with all his science and with all his practice. He added to them; how he found time and strength for it I hardly know; to all his research work, hospital work and private practice, he added the passionate zeal of a reformer, a man sworn to fight hard in politics, both general and medical politics. . . . To him the questions of reform in medical politics and the burning questions of national politics, the refusal to give votes to women, the permitted wastage of national health and efficiency by drink, the gulf between class and class; these were not politics, they were mankind; he was serving mankind just as well by standing for Parliament as by making experiments in a laboratory or operating in a hospital. I could never feel like that about him, but I know that he would have done splendid work in Parliament. . . . He was near sixty when he died, but we had only just begun to think of him as no longer a young man, so keen was he, so insatiable to work. The innumerable honors which he bore so lightly—I never heard him speak of any of them—and the amazing output of his original work in science, the improvements which he had introduced into surgical practice, the multitude of lives which he had saved by his skill or had taught other men to save, and his passionate advocacy of causes which most doctors find no time either to defend or oppose—all these things were before the war.

"He had served in the South African war, he must serve again; we heard of him in authority now in Egypt, now in India, then he went to

Mesopotamia and there he died. It seems right that he should have died not of any wound but of the heat and light of the sun itself; it goes well with his ardent life and with the light that his work brought to the science and art of surgery. . . .

"I say again, there was nobody like him. But he is gone, whom so many of us almost worshiped and so many of us envied; the man indomitable, indefatigable, generous, impulsive, who made us lesser men look like a tame and colorless lot, and went at full speed from his boyhood to his death for his country, as if all his life were nothing but fire and light for mankind."

FEDERAL SUPERVISION AND LICENSURE OF CLINICAL LABORATORIES UNDER THE POSTAL REGULATIONS—A PUBLIC HEALTH MEASURE.

By FRED I. LACKENBACH, Associate Fellow, American Medical Association, San Francisco.

The breaking of some culture tubes while in the mails, thereby exposing postal clerks to infection, is said to be responsible for recent activity in enforcing the laws governing the admission to the mails of specimens of diseased tissues, cultures of microorganisms, etc. These regulations, primarily for the protection of those handling the mails and to guard against the possible transmission of disease through contamination of mail matter, exercise in substance a supervisory control over all laboratories and individuals who may receive such specimens through the mails. Through the broad application of these regulations and the exercise of good judgment on the part of the Postmaster General and local Postmasters there is a strong probability that there will be accomplished a regulation of clinical laboratories which has been impossible through any other means. That such regulation is imperatively necessary is obvious to all who are interested in medical and public health problems. The findings of a clinical laboratory may have an exceedingly important bearing upon the health and welfare of a community, as might be the detection of a typhoid polluted water or milk supply, or the control of a diphtheria epidemic. And when it comes to the examination of blood specimens for the detection of syphilis, for example, and the possible far-reaching effects upon the individual, his dependents and the community at large, the laboratory investigator assumes a responsibility that is certainly a matter of governmental concern and solicitude. It is to be hoped that these regulations will weed out the parasitical commercialized laboratories which prey alike upon the public and the unsuspecting physician, and the postoffice authorities should be given every assistance possible by medical organizations, physicians and others, to enable the proper licensing of the deserving and the elimination of the fraudulent laboratories.

A communication from the office of the Solicitor of the Post Office Department at Washington states that "permits to receive by mail such specimens are issued to laboratories only and not to individuals." Those who are conducting laboratories are requested to advise the office of the

Solicitor, Post Office Department, Washington, D. C., through the postmaster of the city in which the laboratory is situated. The name of the laboratory must be stated and the name of the director to which such specimens are to be addressed. It is required that a certificate be furnished from the physician who is acting as director of said laboratory, stating that it is properly equipped to care for such specimens when received. It is necessary to state the location of the laboratory, street and number, and state whether it is located in an office building or otherwise.

Section 3, it will be observed, prohibits the delivery of specimens of diseased tissues to any laboratory which has not received from the Postmaster General a permit certifying that the institution is entitled to receive such specimens.

Copy of Section 473, Postal Laws and Regulations, follows:

COPY OF SECTION 473, POSTAL LAWS AND REGULATIONS

Specimens of diseased tissues may be admitted to the mail for transmission to United States, state, municipal, or other laboratories in possession of permits referred to in paragraph 3 of this section, only when inclosed in mailing cases constructed in accordance with this regulation, provided that bacteriologic or pathologic specimens of plague and cholera shall under no circumstances be admitted to the mails.

2. Liquid cultures, or cultures of microorganisms in media that are fluid at the ordinary temperature (below 45° C. or 113° F.), are unmailable. Such specimens may be sent in media that remain solid at ordinary temperature.

3. No package containing diseased tissue shall be delivered to any representative of any of said laboratories until a permit shall have first been issued by the Postmaster General, certifying that said institution has been found to be entitled, in accordance with the requirements of this regulation, to receive such specimens.

4. (a) Specimens of tubercular sputum (whether disinfected with carbolic acid or not disinfected) shall be transmitted in a solid glass vial with a mouth not less than 1 inch in diameter and capacity of not more than 2 ounces, closed by a cork stopper or a metallic screw top protected by a rubber or felt washer. Specimens of diphtheria, typhoid, or other infectious or communicable diseases or diseased tissues, shall be placed in a test tube made of tough glass, not over three-fourths of an inch in diameter and not over 7½ inches in length, closed with a stopper of rubber or cotton and sealed with paraffin or covered with a tightly fitting rubber cap.

(b) The glass vial or test tube shall then be placed in a cylindrical tin box, with soldered joints, closed by a metal screw cover with a rubber or felt washer. The vial or test tube in this tin box shall be completely and evenly surrounded by absorbent cotton closely packed.

(c) The tin box with its contents must then be inclosed in a closely fitting metal, wooden, or papier-mache block or tube, at least three-six-

teenths of an inch thick in its thinnest part, of sufficient strength to resist rough handling and support the weight of the mails piled in bags. This last tube shall be tightly closed with a screw-top cover with sufficient threads to require at least one and one-half full turns before it will come off, and fitted with a felt or rubber washer.

5. Specimens of blood dried on glass microscopic slides for the diagnosis of malaria or typhoid fever by the Widal test may be sent in any strong mailing case which is not liable to breakage or loss of the specimen in transit.

6. Upon the outside of every package of diseased tissues admitted to the mails shall be written or printed the words, "Specimen for bacteriological examination. This package to be pouched with letter mail."

THE REMOVAL OF FOREIGN BODIES FROM THE ESOPHAGUS AND RESPIRATORY TRACT.*

By H. B. GRAHAM, M. D., San Francisco, Assistant Clinical Professor of Surgery, Stanford Clinic Medical School.

The following was not received in time to appear in the September issue:

Discussion.

E. C. Sewall, M. D.: I wish to call attention to an unusual symptom that was present in a case seen by me recently, viz.: difficulty in breathing from a foreign body not in the air passage but in the oesophagus.

A Japanese child of four years was brought to Lane Hospital. Child was extremely dyspneic, so much so that the mother would not allow me out of the ward for a moment for fear the child would stop breathing. An X-ray was taken, but without waiting for the development of the plates, I examined the larynx and trachea by means of suspension laryngoscopy without anaesthesia. I was much surprised to find no foreign body, and the breathing now having become normal the child was taken again to the X-ray. The two plates both showed the foreign body, a small metal dog. The first pictured it at the level of the thyroid and the second about 10 cm. lower. Watched under the fluoroscope the foreign body was found to be moving along nicely and it eventually passed the following morning.

Brüings mentions the possibility of embarrassment of breathing from a foreign body located in the oesophagus.

P. A. Jordan, M. D.: I took my course in bronchoscopy with Dr. Graham in Vienna. I bought the outfit and brought it home and have never used it on any one since. I feel incompetent to do the work well. I loaned my instrument to one of my confreres to use in a case, and have always been thankful that he used it instead of myself. The case resulted in a triumvirate of physicians paying \$17,000 damages for the unskilful use of the instrument. I strongly recommend that all foreign body cases needing the bronchoscope be sent to a specialist well skilled in this branch of work.

G. W. Walker, M. D.: As Dr. Graham says, there is too little of this work to be done for many of us to be prepared to do it; also it requires a mechanic to do the work as well as an oesophageoscopist. It seems to me that in cases like that nut which Dr. Graham removed, that a suction apparatus would take it out nicely if fitted with a soft rubber tip with thin beveled end to attach itself to the foreign body's side.

Closing remarks, H. B. Graham, M. D.: As far as the suction apparatus is concerned, I had the same idea the doctor has, but it was unsuccessful. There is usually quite a little oedema of the bron-

chus in front of the foreign body, especially if it has been in more than twenty-four hours.

Regarding the case in which the foreign body had been in twenty years, I will say that there is one other case on record in which the foreign body was in longer than that. Dr. Jackson had a case of a tack in the lung which had been there for twenty-six years.

I cannot say too much about the care that must be exercised in using the bronchoscope on account of accidents which happen. Perforation of the bronchi and traumatism to the lung have occurred. There has also been severe hemorrhage following the unskilful use of the bronchoscope.

SOCIETY REPORTS

ALAMEDA COUNTY.

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, August 15, 1916.

The meeting was called to order by the president and the minutes of the two previous meetings were read and approved.

The following program was then presented:

I. The Health Service of the University of California, Dr. Robert T. Legge, U. C.

II. Health Insurance and the Medical Profession, Dr. I. M. Rubinow, New York.

Dr. Maher, who was a classmate of Dr. J. B. Murphy, gave a number of interesting reminiscences of his acquaintance with the late surgeon.

There being no further business the meeting adjourned.

E. E. BRINCKERHOFF, Secretary.

PACIFIC ASSOCIATION OF RAILWAY SURGEONS.

The Fourteenth Annual Meeting was held at the Palace Hotel, San Francisco, August 25th and 26th, with luncheons at the Transportation Club. An address was made by the President, Dr. H. W. Fenner, Tucson, Arizona.

Papers.

Mr. D. R. Sessions, Claims Attorney, Southern Pacific Co.—"Relation of Hospital Department to Law Department."

Dr. W. C. Hassler—"What the Physicians and Surgeons Should Do to Prevent the Spread of Poliomyelitis."

Both by invitation.

Dr. T. W. Huntington—"The Treatment of Carbuncle."

Dr. W. T. Cummins—"Recent Research Work in Medicine and Surgery."

Dr. Alvin Powell—"First Aid in the Railway Shop."

Dr. E. G. Cambert—"Roentgenology."

Officers elected for ensuing year: Dr. W. T. Cummins, San Francisco, president; Dr. J. A. Ketcherside, Yuma, Ariz., 1st vice-president; Dr. Alvin Powell, Oakland, Cal., 2nd vice-president; Dr. E. M. Keys, Alameda, Cal., treasurer; Dr. L. P. Howe, San Francisco, secretary.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of August, 1916, the following meetings were held:

Tuesday, August 1st—Section on Medicine.

1. Infectious Endocarditis. George E. Ebricht.
2. Common Errors in Diagnosis of Syphilis of Skin and Mucous Membranes. George D. Culver.

Tuesday, August 8th—General Meeting.

St. Francis Hospital Clinical Evening.

1. Intestinal Crises Simulating Chronic Appendix Disease. Diagnosed by X-ray findings. M. P. Burnham and L. B. Crow.
2. Report of Six Complicated Cases of Infective Sinus Thrombosis. C. F. Welty.

3. Pregnancy Complicated by Fracture of the Pelvic Bones. C. P. Thompson.

4. Syphilis of the Stomach. W. B. Coffey.

5. Lantern Slides of X-rays of Fractured Femoral Neck Into Which a Nail Had Been Driven. J. T. Watkins.

Tuesday, August 15th.

Experiences in Industrial Accident Surgery.

1. Fractures of Carpal Bones. A. L. Fisher.
2. Discussion of Principles and Problems of Industrial Accident Work. M. R. Gibbons.
3. Disability From Injury to the Feet. C. J. McChesney.
4. Fractures of the Spine. H. C. Naffziger.
5. Subdeltoid Bursitis. Saxton Pope.
6. Obturator Dislocation. J. T. Watkins.

Tuesday, August 22d.

Section on Eye, Ear, Nose and Throat.

1. Presentation of Cases:
 - A. Case of Exophthalmos; Lues or Sarcoma? K. Pischel.
 - B. Case of Acute Tubercular Labyrinthitis: Unruptured Drum. H. Horn.
2. X-rays of Mastoids. H. B. Graham.
3. Remarks on Shortened Bone Conduction. H. B. Graham.
4. Paralysis of the Fifth Nerve. R. O'Connor.
5. A. Remarks on Ear, Nose and Throat Work in the East. H. Horn.
B. Remarks on Eye Work in the East. A. S. Green.

Tuesday, August 29th.—Section on Urology.

1. Syphilophobia. V. G. Veeki.
2. Modern Treatment of Bladder Tumors. M. Krotoszyner.
3. Lantern Views of Specimens of Enlarged Prostates After Suprapubic Prostatectomy, and Some Conditions Associated With Enlargement of Prostate. M. Molony.
4. Demonstration of Electrical Apparatus. A. E. Cerf.

STANFORD CLINICAL SOCIETY.

The first meeting of the Stanford Clinical Society was held September 11th in the Clinical Building of the Stanford University Medical School, and the following program was presented:

1. Toxic Effects of Urea on Normal Individuals. Dr. A. W. Hewlett, Professor of Medicine.
 2. Muscle Training in Infantile Paralysis. Dr. E. G. Martin, Professor of Physiology.
- The election of officers was held, with the result that Dr. A. W. Hewlett was made president, and Dr. L. Eloesser, secretary.

ST. LUKE'S HOSPITAL CLINICAL CLUB.

The Profession is cordially invited to attend the daily Clinical Meetings which are held at St. Luke's Hospital from 12:00 to 1:00 p. m., and on Friday from 4:30 to 6:00 p. m. At these meetings the instructive clinical material assembled by the St. Luke's Hospital Clinical Club is presented for discussion. Special consideration is given to differential diagnoses and recommendations for treatment.

The X-ray, pathological and surgical departments are open for inspection to those interested in such branches of medicine.

Physicians interested in special problems coming within the scope of the branches represented by the "Diagnostic Section," will be shown every courtesy by the various departments.

The members extend to visitors a welcome to all surgical operations performed by surgeons of the Clinical Club.

E. V. KNAPP, M.D.,

R. B. TUPPER, M.D.,

J. M. MACDONALD, M.D., Chairman,
Executive Committee.

BOOK REVIEWS

Obstetrics—Normal and Operative. By George Peaslee Shears, B.S., M.D. 419 illustrations, 745 pages. Philadelphia and London: Lippincott, 1916. Price, \$6.00.

The practical deductions of a man of experience and the teacher's graphic method of demonstration constitute the chief value of this new work on obstetrics. The tendency to concentrate upon the art of obstetrics and depreciate the practical value of the science seems to us a mistake in this day of effort to raise obstetrical standards within the medical profession. However, there is much help for the general practitioner, for whom, rather than the student, it was written. E. K.

Rules for Recovery From Pulmonary Tuberculosis. A Layman's Handbook on Treatment. By Lawrason Brown, M.D., of Saranac Lake, N. Y. Second edition, revised and enlarged. 12mo, 184 pages. Cloth, \$1.25 net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

In this volume Lawrason Brown has given us in readable form a concise résumé of our present knowledge of tuberculosis.

It is written especially for the patient and its possession will answer many questions and solve many problems that arise in the home care of the afflicted.

The physician also will do well to read this book. It is just off the press and its statements are up-to-date; it has for its author one of the best-known and most eminent physicians and its utterances are authoritative. L. S. M.

Consumption, Its Prevention and Cure Without Medicine, with chapters on sanitation and prevention of other diseases. By Chas. H. Stanley Davis, M.D., Ph.D. Second Edition Enlarged. New York: Treat & Co., 1908. Price, \$1.00.

This volume cannot be considered a serious addition to the medical literature of tuberculosis.

It is full of dry statistics of a former medical generation. Some of its recommendations have long been looked upon as heresies by modern practitioners, and, saddest of all, the grammatical errors and faults of style are numerous and would shame any schoolboy who might be convicted of their perpetration.

The author and publisher evidently agree that time need not be wasted in revising and correcting a work written for non-medical readers. The contrary is true. At no time should the medical writer be so careful in his utterances, so accurate in his information as when he addresses himself to the public, who, untrained in medical matters, can not be trusted to select for themselves the good and ignore the bad. L. S. M.

Skin Cancer. By Henry H. Hazen. Published by C. V. Mosby Co., St. Louis, 1916.

The subject of cancer has for long been an interesting one, but just now it is more absorbing than ever before. This and the fact that Hazen has handled skin cancer so well should make his little book a very popular one. Special attention has been given to etiology in so far as its indefinite relationship to this particular disease is known. And to get an idea of how delightfully he has written the pathology one would have to read only the few pages on the pathology of basal-celled carcinomata and see the illustrations. The whole subject is beautifully illustrated throughout.

The author gives clearly his own experience and quotes largely from the experience of Bloodgood, with whom he has worked a great deal. Because of the interrelationship of surgery and dermatology in the therapeutics of cancer, the book

should be as valuable to the surgeon as to the dermatologist, for this part of the subject is well handled. The volume is a small one and it could well have been published in the form of a pocket edition, which I am inclined to believe would render it far more popular through convenience in handling and in carrying.

If more subjects were treated as commendably and in the same manner, then published in pocket editions, it would be of great assistance to the busy practitioner. G. D. C.

The Memoirs of a Physician. Translated from the Russian of Vikenty Veressayev, by Simeon Linden, with an introduction and notes by Henry Pleasants, Jr., M. D. N. Y.: Knopf, 1916.

There are few attractions which add more to the desirability of a production than the distance of its source. Whatever the intrinsic merits may be there is the never-failing spell of enchantment that attaches itself to the word "imported." "Translated from the Russian" strikes the eye forcibly and promises something profound, erudite, mysterious—the opening of hitherto untrodden avenues of thought and imagination.

Thus fortified with expectation this recent product of the land of despotism, caviar, Tolstoi and Turgenieff was approached by the reviewer. On finally closing the volume there was much to be grateful for in that it was written by a Russian. It thus may be kindly accepted. Had it been written by an American, it might have been thought mediocre, unconvincing and too temperamental.

In these personal memoirs of the author he tells us of his early medical training, his unfitness for practice, not having had hospital experience, his diffidence and mistakes and how later after a hospital course with increasing ability and self-confidence his activities give him a broad, ripened view of medical practice. Chapters are given to the social and economic aspects of medicine, its limitations as a science and much space to the personal relations of doctor and patient.

The whole tone of the volume is rather sombre-hued and cast in an atmosphere of pessimism, well reflected in the translation. The book will arouse and sustain the interest and sympathy of any physician who may desire to read it. M. S.

Diseases of the Skin. By Richard L. Sutton, M.D. 693 illustrations, and 8 colored plates. Published by C. V. Mosby, St. Louis, 1916.

Of what use is the multiplication of books on diseases of the skin when there are already so many on the market? There are many reasons why books on this particular subject are not superfluous, and there are additional ones in favor of the present treatise.

Diseases of the skin are much neglected by the man in general medicine and in other specialties, and an attractive presentation of this group of maladies should be of great benefit. Furthermore, this particular work is richly illustrated, which in a department of medicine that especially lends itself to pictorial illustration, is a valuable feature. In addition to these excellencies it takes up subjects that in other works have been either omitted or neglected. For instance, there is a short article on sporotrichosis with admirable photographs.

There are two diseases pertaining to the surgery of the hands, and especially of the fingers, that rarely receive any mention, and yet may be of great importance—synovial lesions of the skin and granuloma pyogenicum.

The synovial lesions of the skin are wart-like cystic affairs that occur on the back of the hands

and fingers. They are unfortunately named as they have nothing to do with the tendon sheaths or synovial sacks. On being punctured a thick syrupy fluid like synovia escapes, and the little tumor collapses only to refill. This inveterate tendency to recur under inefficient treatment may cause it to be considered malignant, and may give rise to a deal of unnecessary worry.

Granuloma pyogenicum also acts and looks strikingly like a malignant tumor; its tendency to recur and its tendency to bleed are both causes of great anxiety, at least to the patient. When it occurs on the lower lip, a favorite situation, it undoubtedly is frequently mistaken for an epithelioma. Admirable illustrations are given of both these affections.

Among other diseases not mentioned in treatises on dermatology, there is a chapter on the lesions of the skin and mucous membranes of "foot and mouth disease" with three beautifully colored plates.

To recur to the subject of photographs, the racial feature in Sutton's work is something not commonly met with. There are photographs of cutaneous troubles in Indians, negroes and caucasians, furnishing an interesting study in themselves.

D. W. M.

Diseases of the Eye. By George E. deSchweinitz, M.D., LL.D., Professor of Ophthalmology in the University of Pennsylvania. Eighth edition, thoroughly revised and enlarged. Octavo of 754 pages, 386 text illustrations, and seven lithographic plates. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$6.00 net; half morocco, \$7.50 net.

In the latest edition of de Schweinitz's "Diseases of the Eye" the reviewer is pleased to find a text-book which, while omitting none of the time-honored and proven methods of examination and giving fully an accurate and concise description of all the well-recognized eye diseases, brings out in addition short but clear accounts of a variety of ocular diseases and of new operative proceedings, not as yet to be found in other text books of ophthalmology. Of especial interest in this new material may be mentioned the accounts of anophthalmic keratitis, preliminary capsulotomy, iridodectomy, Knapp's methods of cataract extraction in the capsule and West's operation for the resection of the nasal duct. The revised chapter on iritis, embodying the author's experience with auto-toxic iritis and iritis secondary to focal infections, should be of interest not only to the ophthalmologist but to the internist and should be read by the latter especially. The roentgenologist will find in the section "Localization of Foreign Bodies in the Eyeball with the Rontgen Rays" by William Sweet, a full account, with excellent localization charts of this difficult and often ungrateful part of his work. The portion devoted to general optical principles, methods of examination and the methods of refraction is particularly pleasing in its clarity and in the systematic development of the material. The chapter on refraction especially should be read by the "rule of thumb" refractionist; unless too far gone it will abuse him of the conception of the eye as a rigid globe attached to unyielding cables and teach him a physiological consideration in refraction. Therapeutics is fully discussed. The usual absence of being told "what to do" is conspicuous by its presence. The pathological anatomy is discussed somewhat briefly but still clearly, in connection with each disease. One would like to see more of this but the confines of a teaching and practical text-book undoubtedly impose a limit. The inciting organisms of various lesions are discussed briefly in connection with each disease. Trachoma and sympathetic ophthalmia are fully and well presented. The reviewer feels that a short chapter on bacteria causing ocular lesions with a

consideration of their cultural and staining characteristics and a brief discussion of their relation to operative proceedings, would be gratefully received. deSchweinitz's "Diseases of the Eye" has for years been the standard text-book of the American student; the new edition will undoubtedly keep it so. It is clear, precise, systematic and covers the field as fully as such a field can be compressed into a usable text-book.

II. B.

The Medical Clinics of Chicago. Vol. 2, Number 1. July, 1916. Octavo of 220 pages, with 41 illustrations. Published bi-monthly by W. B. Saunders Company, Philadelphia and London. Price per year: Paper, \$8.00; cloth, \$12.00.

Contents.

- Clinic of Dr. Arthur R. Edwards:
 - The use of digitalis.
- Clinic of Dr. Frederick Tice:
 - Some cases of diabetes mellitus with complications.
 - Diabetes Mellitus with Acidosis.
- Clinic of Dr. Solomon Strouse:
 - Diabetes and surgery; diabetes and pregnancy.
 - The treatment of diabetes acidosis.
- Clinic of Dr. Milton Portis:
 - Vomiting.
- Clinic of Dr. Ralph C. Hamill:
 - Presentation of a case of general paresis.
 - Manic-depressive insanity or recurrent melancholia on a basis of dysthyroidism.
 - Peripheral neuritis on a specific basis.
 - A typical case of Basedow's disease.
- Clinic of Dr. Chas. L. Mix:
 - Staphylococcal osteomyelitis developing as a result of infection from teeth.
 - Presentation of a case of paraphasia.
- Clinic of Dr. Isaac M. Abt:
 - Feeding the normal baby. Breast feeding.
- Clinic of Dr. Chas. S. Williamson:
 - A mediastinal tumor—probably Hodgkin's disease.
 - Multiple tubercular serositis.
 - A case of bronchiectasis (unilateral).
 - Recurrent thrombo-ulcerative endocarditis.
 - A case of intermittent claudication.
 - A case of cerebrospinal meningitis.
- Contribution by Truman W. Brophy:
 - Oral Infections.
- Clinic of Dr. James T. Case:
 - The principles of fluoroscopy of the stomach.

The Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. Volume V, Number 4 (August, 1916). Octavo of 222 pages, 50 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Published Bi-Monthly. Price per year: Paper, \$8.00; cloth, \$12.00.

Contents.

- Melanotic neoplasm in digastric muscle—ablation.
- Mixed tumor of parotid salivary glands—ablation.
- Bony ankylosis of temporomandibular joint—arthroplasty (3 cases).
- Retraction of eyeball, fascia-fat plastic on orbital contents.
- Trifacial neuralgia—avulsion of sensory root of Gasserian ganglion.
- Luxation of cervical spine at atlas-axis joint—decompression.
- Traumatic recurrent subluxation of fourth lumbar vertebra—Albee bone graft spinal transplant.
- Tuberculosis of spine—Albee bone-graft spinal transplant; decompression.
- Fracture of humerus (anatomic neck) with loss of head—resection and arthroplasty.

Fracture of humerus (condyles) and radius (head)—resection—arthroplasty.

Ancient T-fracture of humerus—resection of elbow joint—arthroplasty.

Postscarlatinal arthritis of elbow—aspiration and formalin injection.

Tuberculosis of elbow—progress under tuberculin therapy with eventual cure.

Primary synovial tuberculosis of elbow-joint—resection—arthroplasty.

Cicatricial fixation of ulnar nerve from ancient cubitis valgus—release and transference of new site.

Ancient ununited fracture of radius—implantation of bone-graft-splint.

Ancient luxation of metacarpophalangeal joint—operative reduction.

Occult carcinoma of breast with metastases to cervical and mediastinal lymph-nodes, giving pressure signs—non-operative treatment.

Sarcoma of sternum—resection.

Series of 16 illustrations showing certain phases of gall-bladder surgery.

Biliary calculus impacted at ampulla of Vater; contracted gall-bladder—transduodenal choledochotomy; cholecystectomy.

Subperitoneal streptococcic cellulitis—talk on streptococcic infections.

Non-fusion of uterine segments of Mullerian ducts—hysteropexy of aplasic, unfused uterine strands.

Ureteral calculus—lumbar pyelolithotomy.

Sarcoma of ilium.

Ancient fracture of rim of acetabulum with displacement of head of femur.

Luxation of hip-joint.

Ancient bony ankylosis of hip-joint with excessive flexion-deformity.

Extensive trochanteric bursitis.

Bone-infections metastatic to furuncles.

Traumatic intramuscular ossification.

Addendum in re villous synovitis.

Diseases of the Digestive Tract and Their Treatment. By A. Everett Austin, A. M., M. D. 552 pages, with 85 illustrations, including ten color plates. C. V. Mosby Company, St. Louis, 1916. Price \$5.50.

This book sets out with two distinct advantages: it is written by a man who has had a scientific training, who has taught physiological chemistry; and secondly, it is new, it is not a revision in which the author must try to fit new facts into a worn-out classification. We were not disappointed in our hope that the author's training would keep him from making so many of those loose statements that mar the average textbook. Those who have followed the record of the A. M. A.-Patten trial must have been impressed with at least one of the dangers of the textbook written (apparently) by a library assistant and signed by the professor.

Another result of the author's training is the inclusion of a good chapter on the physiology of digestion. One of the best features of the book is that so much of the subject matter has been treated in one place—Part 1.—under the headings of General Diagnosis, Examination of the Patient, Dietetics and Treatment. It saves much repetition in the text of the next two parts, which deal with special diseases of stomach and intestine.

The book is well illustrated with reproductions of X-ray plates taken by Dr. George. Unfortunately, they are all reversed, which makes them rather trying to one who has become used to seeing the stomach on the right—with the patient facing him.

There are some points upon which we believe the author might be a little more up-to-date. For instance, (p. 38) when he says that it has not yet been determined whether there is antiperistalsis in the human colon, he should mention Case's article in which he says he has seen it definitely, so that

the reader can refer to it personally and decide for himself whether he will believe the evidence or not. He quotes Stillé's objection (p. 20) that the bismuth stretches the stomach out of shape and causes the ptosis, as if it were worthy of serious consideration, and not an interesting chapter in the history of medical "Stand-pat-ism." His statement (p. 49) that there is very little evidence that diseases of the digestive tract are in any way transmitted from parent to child is contradicted by the daily experience of every physician.

Although considerable space has been given to a discredited test like Salomon's, nothing is said about the newer methods of gastric analysis in which samples are taken repeatedly at short intervals. On the whole, however, the author is to be congratulated on having discarded some of the tests that encumber the average textbook. His pictures of stools are unfortunately modeled on Schmidt's work, and some of them do not resemble anything we have seen on land or sea.

We believe the space given to massage is largely wasted. A doctor can be better employed than in rubbing his patient's abdomen at so much per afternoon. For the same reason we object to the space given to electrical treatment. It is refreshing and unusual for the author to admit that "no actual scientific evidence exists for its action on the digestive tract." The man who, when he cannot make a diagnosis, gives the patient electricity for as long as he can hang on to him, is dulling his conscience and losing his soul.

He apparently thinks "nutrient" enemas are nutrient, as he does not mention much evidence recently obtained to the contrary. On page 311 he speaks of starving the patient so that his stomach "may be kept in a state of absolute rest." The author does not seem to have paid much attention to the now extensive literature on hunger contractions.

As usual, there are inconsistencies. In the article on hyperacidity he does well to quote the experimental work which has shown the futility of trying to affect the character of the gastric secretion by diet. Yet on page 386, he says "In arranging a diet, attention must be paid to the character of the gastric secretion"; and on page 331 he gives diet lists for dilatation with anacidity and dilatation with hyperacidity. Incidentally, we doubt if there is such a thing as dilatation and hyperacidity without ulcer or other organic disease.

His ideas on corsets are rather old-fashioned. The modern physician does not rail at them; he prescribes them and sees to it that they are helpful and properly fitted.

We believe he should add on p. 420 that Hormonal is exceedingly dangerous, irrational and now practically abandoned. We assume that the doctor has a wonderful digestion himself or he would not prescribe (p. 386) finnan haddie, salt mackerel, sardines, etc., for patients with gastric atony. On the whole, his diets are commendable and it is a delight to find a man who realizes the necessity for excluding cellulose.

He has freed himself to a considerable extent from the domination of a classification of diseases, but the idea crops out here and there. For instance, overfeeding is advocated for gastric atony but not mentioned for enteroptosis. Such distinctions are ridiculous. It seems surprising that a physiologist and practical internist should apologize as he does (p. 290) for saying a few words on diseases of the gall-bladder. It is a serious omission that they have been given barely half a page.

There are a number of statements made here and there which should be backed up by authorities. A few references have been given, but we believe more would add greatly to the value of the book.

So much for criticism. There are a number of features which deserve special commendation. One of the best of these is the series of short

articles on the different symptoms such as heart-burn, nausea, regurgitation, etc.; what do they mean and how do they originate? This chapter deserves rereading. The book, as a whole, is well written, and the author can say as the ancient Egyptians were supposed to do on Judgment Day, "I have not multiplied words without meaning." Particularly praiseworthy is the sanity exhibited in so many places. He has not gone wild over "intestinal stasis"; and does not operate on every man with a dropped colon. He says constipation persists even after the bowel has been stitched up as high as anyone can desire. The article on constipation, beginning on page 406, should be read widely as an antidote to what Progressive Medicine calls "the pseudo-scientific vaporings of Lane and his school."

In many ways the book commends itself to us as one of the sanest and most useful on the subject of gastro-intestinal diseases. W. C. A.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Standard Radium Solution for Drinking (1 microgram Ra).—Each bottle (60 Cc.) contains radium chloride equivalent to 1 Microgram Ra. and 1.3 mg. of barium chloride. The solution contained in one bottle is taken after each meal. The Radium Chemical Co., Pittsburgh, Pa. (Jour. A. M. A., July 1, 1916, p. 35).

Radium Bromide, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Carbonate, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Chloride, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Sulphate, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo. (Jour. A. M. A., July 8, 1916, p. 121).

Vitalait Starter.—A culture in vials of the *Bacillus bulgaricus* and the *Streptococcus acidilactici* in symbiosis. It is intended for the home preparation of fermented milk. Sufficient to prepare from 1 to 3 quarts of fermented milk is sent on request of the physician to the patient twice a week. The Vitalait Laboratory, Inc., Newton Centre, Mass. (Jour. A. M. A., July 15, 1916, p. 203).

Galactenzyme Tablets.—Tablets containing a practically pure culture of *Bacillus bulgaricus*. For administration in intestinal fermentative diseases. Put up in bottles containing 100 tablets each and bearing an expiration date. The Abbott Laboratories, Chicago.

Galactenzyme Bouillon.—A pure culture in vials of *Bacillus bulgaricus*, each vial containing about 6 Cc. Used internally for intestinal fermentative disorders and topically in nasal, aural, throat, urethral and other affections when the use of such a culture is indicated. Put up in packages of 12 vials each. The Abbott Laboratories, Chicago.

Ampules Mercuric Salicylate-Squibb, 0.065.—Each ampule contains 0.065 Gm. mercuric salicylate, N. N. R., in 1 Cc. of sterile suspension. E. R. Squibb & Sons, New York.

Ampules Quinine Dihydrochloride-Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine Dihydrochloride-Squibb, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine Dihydrochloride-Squibb, 0.25 Gm.—Each ampule contains 0.25 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride-Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride-Squibb, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride-Squibb, 0.25 Gm.—Each ampule contains 0.25 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine and Urea Hydrochloride-Squibb, 1 per cent.—Each ampule contains 5 Cc. of a sterile 1 per cent. solution of quinine and urea hydrochloride, N. N. R. E. R. Squibb & Sons, New York.

Ampules Sodium Cacodylate-Squibb, 0.13 Gm.—Each ampule contains 0.13 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York.

Ampules Sodium Cacodylate-Squibb, 0.05 Gm.—Each ampule contains 0.05 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York (Jour. A. M. A., Aug. 5, 1916, p. 437).

Arbutin-Abbott.—A non-proprietary brand complying with the standards for Arbutin, N. N. R. The Abbott Laboratories, Chicago (Jour. A. M. A., Aug. 19, 1916, p. 586).

Ampules Mercury Iodide (Red), 1 per cent. in Oil-Squibb.—Each ampule contains 1 Cc. of a solution of red mercuric iodide and anesthetic, each 0.01 Gm., in a neutral fatty oil. E. R. Squibb & Sons, New York (Jour. A. M. A., Aug. 19, 1916, p. 586).

Fibrin Ferments and Thromboplastic Substances (Kephalin).—The clotting of blood has been shown to be due to the action of the fibrin ferment on the fibrinogen of the blood. The fibrin ferment (thrombin) exists in the blood in the form of prothrombin which is converted into thrombin by the action of calcium and thromboplastic substance (thromboplastin). Kephalin, prepared from the brain, has the properties of thromboplastin. Preparations containing thromboplastin are said to be useful, when applied locally, in the treatment of hemorrhages, especially hemorrhages from oozing surfaces, scar tissue and nosebleeds. The intravenous use of thromboplastin in certain conditions has also been proposed.

Brain Lipoid.—Impure Kephalin.—This is an ether extract of the brain of the ox, or other mammal, prepared according to the method of Howell and Hirschfelder. It has the properties of thromboplastic substance described above. It may be applied direct to the tissues or on sponges

or pledgets, or it may be used in the form of an emulsion with sodium chloride solution.

Solution Brain Extract.—**Solution Thromboplastin-Hess.**—An extract of ox brain in physiologic salt solution prepared by the method of Hess. It has the properties of thromboplastic substances described above. The solution may be applied directly to, or sprayed on the tissues or by means of a sponge or tampon.

Items of Interest.

The Pharmacopoeia Revision.—As usual the Pharmacopoeia about to be issued will be antiquated when it comes out. Some of the drugs in it will have become more or less obsolete, while many new ones which have proven of value will not be there. Since all the publications of the A. M. A. are issued promptly and in excellent style, and are complete, correct and up-to-date, it is suggested that the U. S. P. should be taken over by the A. M. A., and be henceforth published by it. It may be extreme to say that the world would be almost as happy without a Pharmacopoeia, but at least we could get along very nicely with a Pharmacopoeia about one-half the size of the present one. A good deal of the matter it contains is quite superfluous and its deletion would prove distinctly advantageous to (1) the book, (2) to the medical profession, (3) to the pharmaceutical profession and (4), last but not least, to the students of medicine and pharmacy (*Critic and Guide*, July, 1916, p. 239).

Cocaine Substitutes.—**Treasury Decision 2194** places "alpha and heta eucaine or any of their salts or any synthetic substitute for them" under the provisions of the so-called Harrison Narcotic Law. To this ruling, the Farbwerke-Hoechst Company, the manufacturers of novocain, a synthetic substitute for cocain, took exception and, by agreement, a test case was argued before the United States District Court of New York. It is reported that the court took the case from the jury and ordered a verdict for the Farbwerke-Hoechst Company on technical grounds (*Jour. A. M. A.*, July 15, 1916, p. 208).

Novocain.—Novocain was introduced about twelve years ago with the claim that it was from one-sixth to one-tenth as toxic as cocain. Hatcher and Eggleston have recently shown that the toxicity of cocain varies widely with different individuals and with the rate of its absorption into the circulation, and that novocain shows far greater variations. The authors are of the opinion that novocain has a distinct field of usefulness, but call attention to the fact that death has followed the clinical use of small doses and that toxic symptoms have been reported by numerous observers (*Jour. A. M. A.*, Aug. 26, 1916, p. 685).

Phenol Antidotes.—Various substances, fixed oils, glycerin, diluted sulphuric acid, the soluble sulphates of the alkalis and alkali earths, have been recommended as antidotes or prophylactics of phenol poisoning. M. I. Wilbert discusses the value, or lack of value, of the various reagents proposed as antidotes to phenol poisoning. He points out that glycerin will not prevent the production of gangrene or the absorption of phenol. Wilbert points out that the other substances mentioned have been found inefficient as detoxicants for phenol, and in many instances distinctly harmful. He further notes that, while the value of alcohol as an antidote for phenol poisoning has been scientifically disproved, yet even as late as 1915, the fallacy that ethyl alcohol is an antidote to phenol has been embodied in state laws designed to restrict the sale of phenol. Recent investigation, carried out in the Hygienic Laboratory, shows that in the presence of water neither alcohol nor glycerin has any detoxicating effect on phenol (*Jour. A. M. A.*, July 15, 1916, p. 233).

Sodium Sulphate as an Antidote to Phenol Poi-

soning.—Sodium sulphate in strong solution is one of the best known antidotes for phenal poisoning. At one time it was erroneously thought that the antidotal effect was due to the formation of sodium phenolsulphonate. It has been suggested that whatever action sodium sulphate has as an antidote for phenol may be due to some hindrance to absorption, and possibly also to added purgation (*Jour. A. M. A.*, Aug. 12, 1916, p. 535).

Poisoning from Lead Paints.—The reports of the British departmental committee, appointed to investigate the dangers of the use of lead compounds in the painting of buildings, shows the principal source of poisoning to be dust, produced during the mixing of dry, white lead with oil and in the dry rubbing down process. While the first danger is done away with by the use of ready mixed paints, the committee proposes drastic legislation to remedy the second evil. The committee recommends the enactment of a law prohibiting the importation, sale or use of any paint material containing more than 5 per cent. of its drug weight of soluble lead compounds (*Jour. A. M. A.*, July 15, 1916, p. 234).

Hexamethylenamin in Anterior Poliomyelitis.—It has been shown that hexamethylenamin has no germicidal activities, except in an acid medium. Therefore, it is of special value only in infections of the pelvis of the kidney, ureters, bladder and uretra when the urine is acid. It cannot be expected to exert germicidal activity in the spinal fluid, which is alkaline and hence is of no value in the treatment of anterior poliomyelitis (*Jour. A. M. A.*, July 22, 1916, p. 309).

Chemotherapeutic Treatment of Tuberculosis.—In the August issue of the *Journal of Experimental Medicine*, Koga, Otani and Takano report on a new treatment of tuberculosis and leprosy. Koga reports that the treatment of animals inoculated with a preparation of copper and potassium cyanide produces healing changes in tuberculous lesions. He also reports on the treatment of sixty-three cases and thinks that his preparation, which he calls "cyanocuprol," greatly improves or cures pulmonary tuberculosis in the first or second stages and even is beneficial in the third stage. Otani also gives a favorable clinical report of tuberculous cases. Takano treated cases of leprosy with "cyanocuprol" with what appear to be beneficial effects. The Japanese investigators give no clear statement in regard to the composition of the copper-cyanide preparation which they used (*Jour. A. M. A.*, Aug. 5, 1916, p. 443).

Aspirin.—The patent on aspirin will expire next year. The Bayer Company, the American agents, view with disfavor the prospect of losing the right to the sole manufacture of acetylsalicylic acid. This may explain the campaign of publicity which the Bayer Company has inaugurated in the lay press, in which the public is urged to buy the Bayer brand of acetylsalicylic acid (aspirin) only. There can be no better time than the present for the medical profession to substitute for the non-descriptive name "aspirin" the descriptive and correct name acetylsalicylic acid (*Jour. A. M. A.*, Aug. 12, 1916, p. 515).

Radio-Rem.—The Council on Pharmacy and Chemistry reports that those who are well informed on the subject of radium therapy are of the opinion that the administration of small amounts of radium emanation, such as those generated by certain outfits, is without therapeutic value. Having voted not to admit to New and Nonofficial Remedies any radium emanation generator which produces less than two microcuries of emanation during 24 hours, the council voted not to accept Radio-Rem outfit No. 3, Radio-Rem outfit No. 2 and Radio-Rem outfit C, each of which is admitted to produce less than two microcuries of emanation per day (*Jour. A. M. A.*, Aug. 19, 1916, p. 631).

Quality of Chlorinated Lime.—J. P. Street, chemist in the Connecticut Agricultural Experiment Station, reports that of twenty-five samples of chlorinated lime (bleaching powder) which, according to the United States Pharmacopoeia, should contain "not less than 30 per cent. of available chlorin," only three were found of full strength. Eight contained but traces of available chlorin. This is a dangerous situation when it is recalled that the public as well as the medical profession puts great dependence on the disinfecting powers of this inexpensive material (Jour. A. M. A., Aug. 26, 1916, p. 695).

Quality of Sodium Sulphite.—Investigation has shown that while the crystallized sodium sulphite is unreliable, the dried or desiccated form of sodium sulphite is generally of good quality and relatively permanent. A. H. Clark reports experiments showing that specimens of desiccated sodium sulphite keep for years with little deterioration (Druggists' Circular, July, 1916, p. 396).

Aromatic Spirits of Ammonia.—This is an old-fashioned complex mixture. Its reputation has little scientific basis. Its effects probably are psychic, in the main. Such effects might be expected from the irritation of the nasal mucosa by the ammonia and to the flavor and odor of the lemon, lavender and nutmeg oils. The physical effect is probably due to the alcohol, though the ammonium carbonate and uncombined ammonia may have some restorative action by the irritation of the gastric mucosa or by their neutralization of nauseating acids in the stomach. When the effects of ammonium carbonate are desired, this is better given in aqueous solution. When the effects of alcohol are desired, whiskey is to be preferred (Jour. A. M. A., July 1, 1916, p. 65).

Aromatic Spirits of Ammonia in Shock.—Horatio C. Wood, Jr., explains that any stimulating effect which may be observed after the oral administration of aromatic spirits of ammonia is due either to a psychic effect or to its local irritant action on the gastric mucosa, just as the irritation by ammonium carbonate, in the form of smelling salts, of the mucous membrane of the nose may reflexly excite the medulla (Jour. A. M. A., July 15, 1916, p. 231).

Tartar Emetic and Sodium Bicarbonate Incompatible.—The A. M. A. Chemical Laboratory reports that when an aqueous solution of tartar emetic is added to a solution of sodium bicarbonate a clear solution results at first, but that on standing a precipitate of antimony hydroxide is formed (Jour. A. M. A., Aug. 5, 1916, p. 462).

Wine of Cardui Verdict.—Anent the verdict in the recent "Wine of Cardui trial" awarding one cent damages to the Chattanooga Medicine Company, a medical journal offers condolences to the American Medical Association, declares that the verdict is "a very decided victory for the 'patent medicine' association," and asks "is publicity the way to accomplish the true end?" The outcome of the case was a moral victory for the Association and publicity is the only rational means of attacking the nostrum evil, whether of the "patent medicine" or of the "ethical proprietary" variety. Until the public is given definite and specific facts no great strides will be made in preventing unscrupulous cupidity from preying on the sick and suffering. The faith of the public in patent medicines of all sorts continues because no small part of the medical profession is itself still under the blight of the "patent medicine" business—albeit the preparations in question are euphemistically spoken of as "ethical proprietaries" (Jour. A. M. A., July 15, 1916, p. 206).

A Study of "Uterine" Drugs.—Dr. J. D. Pilcher, W. R. Delzell and G. E. Burman, working in the Pharmacologic Laboratory of the University of Nebraska Medical School, have studied the action

on the excised guinea pig uterus of a number of drugs which are constituents of proprietary and "patent" "female" remedies, drugs for the value of which there is little evidence and which would have fallen into disuse but for their exploitation. The following drugs lessened the amplitude of the contractions of the uterine strips, or in stronger solutions caused a complete cessation: Unicorn root, pulsatilla, Jamaica dogwood and figwort. Somewhat less active were valerian and lady's-slipper. The drugs having very weak actions were wild yam, life root and skull-cap. Blue cohosh was most active and put uterine strips in a state of tonic contraction or tetanus. The following drugs were quite inactive: black haw, cramp bark, squaw vine, chestnut bark, false unicorn, passion flower, blessed thistle, St. Mary's thistle and motherwort. The authors are confident that the actions observed would also be produced in the intact human uterus provided the drug reached the uterus in a similar concentration but that it is improbable that the concentration of drug used could ever be attained in the body. Work which is under way indicates that these drugs do not act specifically on the uterus but on smooth muscle in general and that this general action would overbalance any favorable action on the uterus. The authors conclude that the drugs examined are practically worthless and that their use is harmful as well as futile since such use tends to perpetuate therapeutic fallacies (Jour. A. M. A., Aug. 12, 1916, p. 490).

Poisonous Properties of the Garden Daffodil.—The bulbs of the garden daffodil (known botanically as *Narcissus pseudonarcissus*) contain an alkaloid (or alkaloids) whose physiologic action differs according to the stage of growth of the plant. The alkaloid extracted from the flowering bulb produces dryness of the mouth, checks cutaneous secretions, dilates the pupil, quickens the pulse, and slows and weakens the heart contractions. The alkaloid extracted from the bulbs after flowering produces copious salivation, increases cutaneous secretion, contracts the pupil, and produces slight relaxation of the pulse, slight faintness and nausea. Such widely divergent physiologic effects indicate that there must be considerable differences in the nature of the alkaloids at the different times mentioned. Since the daffodil is so common in gardens it might be well to consider it in poisonings of mysterious origin (Jour. A. M. A., July 22, 1916, p. 290).

Ambrine.—An article "War Letters of an American Woman" in the Aug. 2 issue of "Outlook" contains a glowing account of the use of "Ambrine" in the treatment of burns by a Dr. Barthe de Sandfort, Hospital St. Nicholas, Paris. Ambrine is a proprietary preparation which has been on the French market for years. It is a secret nostrum in that the proportions of the ingredients—"wax, paraffin and resin"—are not given. There is nothing original in an application of melted resin, beeswax and paraffin, although the correspondent of the Outlook seems to have been carried away with the idea that it is one of the great miracles of the day (Jour. A. M. A., Aug. 12, 1916, p. 535).

SOCIAL INSURANCE COUNTY COMMITTEES.

Alameda County—Dr. H. S. Delamere, chairman; Dr. F. H. Bowles, Dr. H. A. Makinson.

Butte County—Dr. Edw. E. Baumeister, Dr. N. T. Enloe, Dr. J. O. Chiapella.

Los Angeles County—Dr. Wm. Wenzlick, chairman; Dr. J. Ross Moore and Dr. T. Percival Gerson.

Mendocino County—Dr. L. C. Gregory, Dr. Oswald H. Beckman, Dr. H. O. Cleland, Dr. S. L. Rea, Dr. E. H. Sawyer.

Modesto County—Dr. B. F. Surryhne, Dr. F. R. Delappe, Dr. E. V. Falk.

Sacramento County—Dr. E. M. Wilder, chairman; W. A. Beattie and J. P. Dillon.

San Bernardino County—Dr. G. G. Moseley, Dr. Carroll C. Davis, Dr. C. G. Hilliard.

San Diego County—Dr. Homer C. Oatman, Dr. R. J. Pickard, Dr. Harry Wegefarrh, Dr. P. M. Carrington, Dr. R. L. Doig.

San Francisco County—Alice M. Woods.

Orange County—Dr. H. M. Robertson, Dr. J. I. Clark, Dr. A. M. Weedie.

Santa Cruz County—Dr. J. M. Gates, Dr. Keck, Dr. E. E. Porter.

Ventura County—Dr. D. W. Mott, Dr. C. A. Jensen, Dr. B. E. Merrill, Dr. H. B. Osborn.

These are all the counties reported to date, October 18th.

Committee on State Industrial Accident Laws.

Los Angeles County—Dr. Wm. R. Moloney, chairman; Dr. E. H. Southworth and Dr. C. P. Thomas.

REPORT OF THE MEETING OF THE STATE BOARD OF HEALTH ON SEPTEMBER 2ND, 1916.

The State Board of Health met in Sacramento September 2, 1916, to hold the regular monthly meeting. Doctors George E. Ebricht, F. F. Gundrum, Edward F. Glaser, Adelaide Brown, Robert A. Peers, and Wilbur A. Sawyer were present.

Inasmuch as a plague-infected ground squirrel had been found in San Mateo County, a resolution was passed declaring that county to be an existing focus of plague. This action adds San Mateo County to the list of counties in which it is possible, under the State law, to compel land owners to destroy ground squirrels.

President George E. Ebricht presented a progress report of the committee which is investigating the care and commitment of the insane and persons addicted to the use of habit-forming drugs.

On the request of Dr. W. W. Cross of Fresno, Director of the San Joaquin Valley Branch Laboratory of the Bureau of Communicable Diseases, he was given a leave of absence for one year from October 1, 1916, and Dr. Clifford D. Sweet was appointed to fill the vacancy during his absence.

Mr. Stanley B. Freeborn was reappointed inspector of the State Board of Health, without salary from the Board, for services in connection with the malaria and mosquito survey, to hold office for a period of one year from date.

In accordance with the recommendation of Mr. C. G. Gillespie, Director of the Bureau of Sanitary Engineering, a permit was granted to the Hanford City Water Company to supply water to the city of Hanford. Temporary permits to supply water were granted to the Escondido Mutual Water Company, the San Joaquin Light and Power Corporation (to supply water to the city of Selma), and the city of Turlock. A permit was granted to the city of Dinuba to dispose of sewage on a sewage farm after clarification. A temporary permit was given to the city of Turlock to continue to use the present method of sewage disposal.

A report was received from Mr. C. G. Gillespie, Chief Engineer, and Mr. Kemper B. Campbell, Attorney to the Board, on the work which the city of Los Angeles is instituting as a first step in meeting the Board's requirements regarding sewage disposal at Hyperion.

In accordance with the recommendation of the Director of the Bureau of Tuberculosis, wards 1 and 2 of the women's building of the San Francisco City and County Hospital were placed on the eligible list for the State tuberculosis subsidy. Two of the men's tuberculosis wards had previously been accredited.

Miss E. L. M. Tate, Director of the Bureau of Tuberculosis, was appointed delegate to the Southwestern Conference of the National Association for the Study and Prevention of Tuberculosis at Albuquerque, October 13 to 14, 1916.

The dates for the next examination for certification as registered nurse were set for October 18 and 19, 1916. The examination will be held simultaneously in Los Angeles, Sacramento, and San Francisco.

Much routine business was transacted, including the granting of licenses to cold storage warehouses, the extension of period of cold storage on goods found to be in good condition, and the holding of hearings in a large number of cases of alleged violation of the Food and Drug laws.

W. A. SAWYER, Secretary.

DANGERS OTHER THAN ACCIDENTS IN THE MANUFACTURE OF EXPLOSIVES.

We all know of explosions and other sudden dangers of the industrial chemist. There are dangers that approach their victims like a thief in the night, and others that give no warning but strike down their victims weeks and months after an onset, and with these dangers the public has no acquaintance. To safeguard the employees and others connected with certain chemical industries, the American Public Health Association has taken the matter under investigation. At the coming meeting of the American Chemical Society to be held in New York City during the week of September 25th-30th, the matter will be presented in a very comprehensive manner by Dr. Alice Hamilton, chairman of the Committee on Industrial Hygiene of the above association.

Dr. Hamilton has gained a world-wide reputation through her magnificent work on occupational poisons, and is eminently qualified to discuss this all-important subject. Dr. Hamilton is a graduate from the Medical College of the University of Michigan, 1893, did graduate work in bacteriology in Germany and at the Johns Hopkins University, and was bacteriologist in the Memorial Institute for Infectious Diseases at Chicago until 1909, when she started her investigations of occupational poisons for the State of Illinois. Since 1909, she has been connected with the Federal Bureau of Labor Statistics, where most of her classical work has been accomplished. As part of the program of the symposium of occupational diseases, Dr. Hamilton will present a paper somewhat along the following lines.

The risks from explosion in the manufacture of ammunition are well known to everyone, but there are other much less familiar and more subtle dangers connected with these processes, a study of which was recently undertaken by the Federal Department of Labor in collaboration with various State departments. It has been found that gases very poisonous in character are evolved in large quantities in the manufacture of nitrated products, such as gun cotton, nitro-glycerine, picric acid, and the new explosive T. N. T., and tronal and tetryl. These products are themselves often poisonous, causing distressing skin affections in those handling them and, when absorbed, more serious disturbances such as alterations in the blood are acute degeneration of the liver. More familiar poisons such as ether, wood alcohol, benzol, chlorine, mercury, phenol, and aniline, are also met with in these plants, and the number of cases of fairly serious industrial poisoning that have occurred in this country since the outbreak of the European war is far from negligible. As a rule the old established companies, whose experience is great, are using excellent preventive measures against these dangers, but the newer "war bride" factories are far less satisfactory.

UNITED STATES PUBLIC HEALTH SERVICE

Washington, August 14, 1916.

Congress has recently made an appropriation for 33 additional Assistant Surgeons in the United States Public Health Service. These officers are commissioned by the President, and confirmed by the Senate. The tenure of office is permanent, and successful candidates will immediately receive their commissions.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Passed assistant surgeons after twelve years' service are entitled to examination for promotion to the grade of Surgeon.

Assistant Surgeons receive \$2000, passed assistant surgeons \$2400, surgeons \$3000, senior surgeons \$3500, and assistant surgeon-general \$4000 a year. When quarters are not provided, commutation at the rate of \$30, \$40, and \$50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service.

Examinations will be held every month or so in various cities, for the convenience of candidates taking the examination. Further information will be furnished by addressing the Surgeon-General, United States Public Health Service, Washington, D. C.

THE ORGANIZATION OF THE ARMY.**Line and Staff, and the Administrative Zones in War.**

(By Major John W. Hammer, Medical Corps, U. S. Army.)

The army of the United States comprises the Regular Army, the Volunteer Army, the Officers' Reserve Corps, the Enlisted Reserve Corps, and the National Guard while in the service of the United States.

The land forces are grouped under two general heads:

1. The Mobile Army, organized primarily for offensive operations against an enemy.
2. The Coast Artillery, for defense of our ports and seacoast.

Another general grouping of the army may be made into:

1. The line, or combatant forces.
2. The staff corps and departments.

The line of the army consists of infantry, cavalry, field artillery, and coast artillery.—the first three organized in various regiments, the numbers determined by Congress in fixing the strength of the army. When three regiments of infantry, say, are combined under one command, it is called a brigade of infantry, and, typically, when three brigades are likewise combined, it makes a division, with the addition of cavalry, light artillery, engineers, signal troops, etc. Field armies are formed when two or more infantry divisions are combined.

The Staff Corps and Departments are the following: The General Staff Corps, the Adjutant General's Department, the Inspector General's Department, the Judge-Advocate General's Department, the Quartermaster Corps, the Medical Department, the Corps of Engineers, the Ordnance Department and the Signal Corps.

The Medical Department is made up of the Medical Corps, the Medical Officers of the Officers' Reserve Corps, the Dental Corps, the Veterinary Corps, an enlisted force, the Nurse Corps and Contract Surgeons. Its duties are many and varied: it looks after the sanitation of the army in the field, in camp and at permanent posts;—the water supply and its purification are its care, and the disposal of wastes; it cares for the sick and wounded; physically examines officers and enlisted men; manages and controls military hospitals; recruits and instructs its enlisted personnel; has control of the Nurse Corps, and furnishes all medical and hospital supplies.

"Administrative Zones" in War.

Under this head are embraced (1) the service of the interior, and (2) the service of the theater of operations, and this latter is again divided into (a) the zone of the line of communications, and (b) the zone of the advance.

In the interior we have the general depots of supply, general hospitals, arsenals, mobilization and concentration camps, etc.

In the theater of operations, the zone of the line of communications is the connecting link between the interior and the zone of the advance, forwarding supplies of men and material to the combatant forces from the interior, and conveying back from the advance the sick and wounded, and generally unfit, so as to leave the combatant forces unencumbered and mobile. In this area the sanitary service establishes evacuation and base hospitals, convalescent and isolation camps, and rest stations; has its base and medical supply depots, and has charge of hospital trains and hospital ships.

The zone of the advance is that area in which there is actual and potential fighting. In this area the sanitary service must be as mobile as the combatant troops, and is composed of camp infirmaries, ambulance companies and field hospitals.

ABSTRACT.**The Sanitary Service of the Premobilization Period.**

(By Major Ralph G. Devoe, Medical Corps, U. S. Army.)

The physical examination of recruits is one of the most important duties of medical officers. Many applicants with minor defects must be taken but it must be borne in mind that such are prone to take advantage of their defects to avoid difficult service. Medical officers are held personally responsible for the enlistment of unfit men and all defects must be noted, though not considered sufficient to demand the rejection of applicant.

In determining whether all body functions are sufficiently vigorous to withstand hardships of active service, special difficulties arise. Those most frequently met with are abnormalities of the special senses, diseases of the heart and lungs (tuberculosis), questions of mental stability, defective teeth, venereal disease and abnormalities of the extremities, especially feet.

Records and special identification procedures must be carried out under supervision of the medical officer, for the correctness of which he is responsible.

Laboratory methods must be employed when necessary to establish fitness or unfitness for service and the Wassermann test must be made routinely on all recruits and men re-enlisting. Specific prophylaxis especially that of smallpox and typhoid must be employed as a routine matter. The various communicable diseases commonly met with in the army in the premobilization period must be met by the means usually available for their diagnosis, isolation and the detection of carriers.

Solution of the problems of water and milk supply during the premobilization period, as compared with the magnitude and difficulty they assume in the field service, presents, ordinarily, little difficulty.

ABSTRACT.**The Diseases of War: Their Prevention, Control and Treatment.**

(By Major Lloyd L. Smith, Medical Corps, U. S. Army.)

Typhoid fever caused nine-tenths of all deaths among troops encamped in the United States in 1898. Factors determining the high rate of sickness in war have reference either to lowered bodily resistance or to increased facilities for infection. The reasons for increased facilities for

infection are concerned with water supply, disposal of excreta, overcrowding of tents, absence of suitable means of isolation and disinfection, and insanitary conditions of an unavoidable nature due to stress of war. Typhoid fever illustrates the infectious diseases of the intestinal type. In past wars typhoid fever has broken out toward the end of the first month in spite of all precautions. The finding of the typhoid carrier has dispelled much of the haze surrounding the mode of infection. Probably many of the organisms at the beginning of the outbreak were of low virulence, but increased in virulence on being transmitted through various individuals; men with lowered resistance supplied the early sporadic cases; outbreak assumed proportions of an epidemic after the necessary interval required for development of secondary infections. Ambulatory typhoid and premonitory diarrhea are of great importance. Early cases may have shown only diarrhea; these cases were less likely to show subsequent attacks of clinically typhoid fever. All this shows that diarrhea, in war times, deserves especial consideration and study. Infectivity of dust is short lived but intense while it lasts.

Mortality in cerebro-spinal meningitis is high and 40 per cent. of all contacts are said to be carriers.

Typhus fever of Mexico (tabardillo) and Brill's disease are identical with typhus fever. Immediate associations of this disease are famine, filth and vermin.

Scurvy is a deficiency disease that occurs in besieged forts. Gingivitis, caused by eating hard rations, is often mistaken for a symptom of scurvy.

Measures dealing with diseases in war are as complex and varied as the diseases with which they are designed to deal. Two essential methods are necessary: First, accurate diagnosis on direct clinical observation, provided no laboratory is at hand to give assistance; traveling motor laboratories for each army at the front is of great assistance; also, field laboratories on lines of communications; second, accurate statistical records of prevalence of those diseases which require remedial action.

Preventive measures: antityphoid inoculation absolutely essential; taking temperature of newly raised soldiers necessary before antityphoid inoculation to rule out cases already in the prodromal stage of typhoid fever. Typhus fever is prevented by attention to overcrowding, house sanitation, personal hygiene, proper bathing facilities, methods of destruction of vermin, disinfection of clothing, etc.

Remedial action: Prompt detection of wastage in the fighting strength and removal of its cause, whatever that may be. Here, statistical returns are of importance.

An Abstract of a Lecture on Medical Supplies and Equipment.

(By Colonel Henry I. Raymond, Medical Corps, U. S. Army.)

The Manual for the Army Medical Department, 1916, is divided into three parts. Part I treats of general medical administration; Part II treats of the sanitary service in war and Part III is upon the Supply Tables. The three grand subdivisions of supply are Post, Dental and Field.

Post supplies appear under the following subdivisions: (a) Medicines, antiseptics and disinfectants, (b) stationery, (c) miscellaneous, (d) laboratory supplies, (e) identification supplies and (f) X-ray supplies. In addition to the foregoing supplies the post or regimental surgeon must keep on hand certain field supplies in time of peace for the exigency of war. These are: (a) first aid packets for every officer and enlisted man of the command, (b) individual equipment, medical of-

ficer, (c) individual equipment, Hospital Corps, (d) regimental combat equipment, (e) camp infirmary equipment, (f) "additional articles" which when added to the camp infirmary will permit of the establishment of a regimental hospital.

Dental supplies are carried under two headings: (a) base, suitable for service in a general hospital, (b) portable outfit for itinerary service.

Field supplies embrace all those for field sanitary units, such as field hospitals and ambulance companies, and are replenished by issues from the base and advance medical supply depots. The advance depot makes issues chiefly to the fighting forces in the zone of the advance. This depot must keep in stock at all times at least one "medical reserve unit," which is a collection of medical supplies estimated to be sufficient to meet the immediate requirements of a reserve for one infantry regiment. A medical reserve unit as issued from a supply depot is contained in some 255 packages weighing about 18,000 pounds. The supplies and equipment of an Evacuation hospital are contained in 565 packages and weigh over 30 tons. This hospital located in the advance section of the line of communications is quite in contrast with the field hospital in the zone of the advance as regards mobility, for the field hospital supplies and equipment including tents are contained in 213 packages and weigh but 8 tons. Yet this seems excessive for a distinctly mobile field unit and the tendency is to trim it down. Only recently the beds and cots have been thrown out for hay and rubber blankets.

Certain equipment designations prescribed in general orders are as follows: Equipment "A" is that prescribed for use in campaign or on the march and is the only equipment for which transportation is provided. Equipment "B" is that which, in addition to equipment "A," is prescribed for more or less stationary troops, as in camps of mobilization, concentration, instruction or maneuver. Equipment "C," is the sum of equipment "A" and "B," and hence it includes every article prescribed for field service.

IN ERRATA.

On page 386 of the September Journal under New Members the name Bogue, H. E., should be H. Virgil Bogue.

NEW MEMBERS.

Flagg, Don P., Los Angeles.
Slater, John H., Los Angeles.
Smith, Bertrand, Los Angeles.
Stephens, J. M., Los Angeles.
Thomas, Benjamin, Palo Alto.
Clark, Ernest M., Oakland.
Forbes, Henry Stone, Berkeley.
Hieronymus, Arthur, Alameda.
Mehrmann, H. B., Oakland.
Rowe, Albert Holmes, Oakland.
Minaker, A. J., San Francisco.
Hewlett, A. W., San Francisco.
Herrington, Edward Lee, San Francisco.
Deimel, H. F., San Francisco.
Pietrafesa, Rocco, San Francisco.
Holzberg, Henry L., San Francisco.
Friedman, Aaron, San Francisco.

DEATHS.

Powers, Thomas, Los Angeles.
Makenson, Winfield S., Rio Vista.
McLaughlin, James H., Sutter Creek.
Cate, La Fayette, Adin.
Rosenberger, John Ashby, Del Rey.
Felt, Seth C., Los Angeles.
La Spada, Francesco, San Jose.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Harry E. Alderson, M. D.

René Bine, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - -

State Journal, - - -

Official Register, - - -

Butler Building,

San Francisco.

Telephone Douglas 62

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV NOVEMBER, 1916

No. 11

EDITORIAL NOTES

ANNUAL MEETING AT CORONADO.

Do not fail to mark on your next year's calendar the third week in April. The State Society will meet at Coronado the third Tuesday, Wednesday and Thursday of April, 1917. We are advised directly by the local society that they have already made arrangements at the Hotel El Coronado for accommodations for all our members who may attend, and for an ample supply of meeting rooms and the like. The local committee is also at work on arrangements for the entertainment of the members and their families, and from what is heard from the southern part of the state, next year's meeting ought to be in the nature of a "record-breaker." Certainly many things of the greatest importance will come before the Society for consideration.

INCREASED COSTS.

The cost of practically everything has in the last two years increased. This is particularly true of things relating to printing. For instance, the paper on which these words appear has more than doubled in cost within the last two years, making an increased expense of about \$700 a year. This additional cost extends into everything in the shape of paper used in the office, and large quantities of paper of all sorts are consumed in your office every year. Printing-ink, and particularly colored inks, have increased enormously in cost. Some colors which formerly sold at 80 cents a pound are now scarce at \$30 a pound.

If any of our members can assist us in securing additional advertisements to help make up some of this increased cost, it will be a great and distinct benefit to your Society.

INDUSTRIAL ACCIDENTS.

The report of the Industrial Accident Commission for the year 1915 is interesting. The crude figures, taken from an analysis of the report as published in the *San Francisco Recorder*, are as follows:

"There were reported 67,538 injuries, as follows: Fatal, 533; permanent, 1264; temporary, 65,741.

"The total payments for the above injuries, reported up to June 30, 1916, amounted to \$2,002,706.04. This sum was apportioned between: Compensation to injured, \$1,150,503.56; medical payments, \$852,202.48.

"There were 13,254 injuries out of the 67,538 that lasted 15 days and over."

In 1915 there was a reduction of 158 industrial deaths from the year 1914, and there was also a decrease to the extent of 28 in permanent injuries. Temporary injuries, however, increased to the extent of 5500, thus confirming the universal experience the world over, that as compulsory industrial accident insurance progresses more care is given to those early and generally regarded as slight injuries, which not infrequently become serious. Of the amount of money paid for medical treatment, probably a conservative estimate would be to the effect that three-fourths of this would not have been paid for medical treatment had it not been for the industrial accident law.

MALPRACTICE; A CURIOUS COINCIDENCE.

The establishment of the Malpractice Indemnity Fund and the circular letter which was sent out to all members have resulted in a very large correspondence on the subject. Some of this will be referred to in another note. Singularly enough, in one mail came two very interesting letters:

1. A member of the Society wrote in, saying that he had been in practice 25 years; that he did not lack confidence in his skill and judgment; that he was never careless or negligent; that he had never been sued and did not expect ever to

be sued; so that while he highly commended the plan, he would not participate in it himself.

2. The second letter was written by a member living less than twenty miles from the residence of the writer of the first letter, and was written in great agitation of mind. The writer stated that he had been in practise 26 years, that he had always been careful and faithful in his work, but that the day before he had been served with papers in a suit demanding \$20,000 damages. Unfortunately for the writer of this second letter, he had not paid his dues to his county society at the time he treated the patient suing him, and therefore he was obliged to defend the suit at his own expense.

"No man knoweth the day or the hour."

THE INDEMNITY FUND.

On October 17th, the date of writing, 212 members had contributed to the indemnity insurance fund. With these contributions have come volumes of comment, practically all favorable, and much of it very enthusiastic. One inquiry is directly pertinent. Why does the plan request the sending of a note, and why does not the note state the purpose?

The first point here may be answered by saying that the object of requiring a payment for each of two consecutive years, cash for the first payment and the note for the second, is to maintain the interest of the contributors in the first place, and in the second, to distribute the money payment over two years and not concentrate it in one payment of \$30.

The second question may be answered by saying that a promissory note, to be a negotiable document, must be an unconditional promise to pay a certain sum of money to order of bearer. Any alteration of the form of the note immediately destroys its negotiability.

Just a few of the expressions used by those who have contributed are here appended, as they reflect the tone of all of the contributors so far:

"This is a good thing for the members and they ought to stand together—it is nearly always some one that never paid a doctor a cent in his life that is trying to gouge him."

"I am now in my 76th year and have not practiced for some years, so do not need this protection though I am greatly interested in the project, and if it were otherwise I would surely help the matter along, if for nothing else, for the benefit of others. It seems to me that the profession should by all means protect itself through some agency of this kind."

Here is an illustration of what is probably going on in the case of several hundred of our members: "I had fully intended at the start to send this without further ado, but, like most doctors, I neglected it. I am certainly very heartily in sympathy with the movement and believe it to be the right thing."

"Your circular letter reached me this morning, and I enclose check and note. I should have sent

you my check and note before, immediately after the July number of the JOURNAL, but I was in the Monterey Training Camp and overlooked it."

"I think you are going along a good road. I hope you will find, not three hundred, but every member gifted with the necessary foresight and intelligence to back your proposition."

"I am sending in check and note. I have never had a malpractice suit, but have been so near it that it scared me and cost me more than three years' insurance to settle it quietly. I am talking it to all the men here and surely hope it will go through."

"I consider this a movement in the right direction, and it should have the hearty support of the entire profession."

"Enclosed you will find checks for \$15 and notes for \$15 from Dr. J. C. F. and myself. We believe that this is an excellent movement and should not be allowed to fail through want of plenty of publicity."

"Every member in the State should embrace this proposition. I know there was a time with me when I did not give these matters much thought. I believed that any careful, honest physician could practise indefinitely without anyone taking a crack at his bank roll. I got by for ten years; then away went the old Utopian ideal of the professional life, and but for the masterly and tender care of 'old Judge Morrow' (who will let you weep on his shoulder as often as you want to, God bless him!) I would now be in an untimely grave from worry. Two suits in succession will educate the most skeptical! I can think of no more comforting defense than the State Society—with money."

The former letter was from a member in one of our largest cities; the following one is from a member in a very small town where he is the only physician. "I think the idea a good one and should be heartily endorsed by all members of the Society."

"Please find check and note as per circular just received. Push the plan along. It is too good to fail."

A note was returned to a sender because he had altered the wording and thus destroyed the negotiability of the document. He writes as follows: "Enclosed please find note which I trust will be satisfactory. I plead guilty that the other was not a promissory note. I take great pleasure in this connection to congratulate you upon your untiring efforts toward unity and elevating the standard of the medical fraternity of our State, and wish you continued success in the future."

"I think this insurance indemnity fund a good move and heartily approve of it. Please notify me when the note comes due. With best wishes for the success of the plan, etc."

Here is a word from the secretary of one of our very active county societies. It indicates the tendency on the part of many of our members to delay and procrastinate, which is always dangerous and not infrequently fatal. "I am personally much interested in the indemnity insurance feature, and am doing all I can to stir up interest among our

members; but there seems to be a disposition among the men to hold off until the 300 necessary members is assured."

"Enclose check and note as per circular just received. Hope the good work is progressing satisfactorily and will not fail."

"Enclosed find check for \$15. I have lost the note and if you will tell me how to make one out, I will send it at once. I have been in a company, which costs me \$15 a year, for many years, but I would rather have my money in the hands of our own Society."

"As you know, I am heartily in favor of the idea you are trying to work out and I certainly boost it every time I get an opportunity."

CARREL'S SOLUTION.

Several inquiries have come to this office for the formula of the antiseptic solution which developed as one of the innumerable by-products of the European war. This solution is generally referred to under the name of Carrel's solution, and is made as follows:

Dissolve in a large bottle 140 grams of dry carbonate of soda with 10 liters of sterile water. Add to this 200 grams of chloride of lime (bleaching powder) and shake well. After half an hour siphon off the clear fluid into another bottle through a cotton plug or filter paper and then add 40 grams boric acid to the clear fluid.

ALCOHOL AND PROHIBITION.

The editor of this JOURNAL has had many requests to publish editorially urgent pleas for voting against amendments 1 and 2 at the forthcoming general election. A request equally urgent has also been made to commend prohibition and condemn the use of alcohol. The whole question is another one of those exceedingly broad fundamental problems which confront society. Shall the individual be guided, directed, restrained, modified by governmental authority in all the innumerable ways which sumptuary legislation might devise? Or, on the other hand, shall as great freedom and liberty of conduct be given to the individual as may be consistent with the quiet life, liberty and enjoyment of property of other citizens? Alcohol, like many other things, may be at one time innocent if not useful, while at another time it may be most vicious. In the abuse, and not the sane and proper use, lies the potency for evil of many things, not alone alcohol. Only a fanatic (and the utterances of fanatics must be eliminated from any side of any question) would claim that the moderate use of wine, beer, or other forms of alcohol is harmful. To get back where we started, the whole question is one of policy in social development. One group maintains that the personal activities of all individuals shall be limited, whereas the other group maintains that only the activities of individuals which are harmful to others shall be controlled.

IMPORTANT NOTICE.

SCIENTIFIC PROGRAM.

The members of the Scientific Program Committee wish to again call the attention of the members of the State Society to the absolute necessity of making early application for places on the program. They again call attention to the ruling that not only must titles to papers be in the hands of the Program Committee before January, but each author must furnish by that date a synopsis of the paper to be read. These titles and synopses will be published in the JOURNAL before the April meeting. This ruling was made in order to furnish an opportunity for those wishing to take part in discussions to be informed in advance regarding the particular phases of a problem which the author intends to treat in the presentation of his paper. It is felt that only in this way can the greatest good be obtained from discussion.

All members of the State Society in good standing are eligible for a place on the Scientific Program. The privilege of presenting a paper is not the result of a "pull" or of favoritism. The Society belongs to its members and each has a right to be heard on the program or in the discussions. The only thing which can prevent a member of the Society from presenting a paper is the limited amount of time. The actual amount of time allotted for the reading and discussion of papers is two and one-half days. Obviously, each one of the twenty-five hundred members of the Society cannot present a paper. For this reason it is apparent that more will apply for space than can be accommodated. Those who apply early will be given the first opportunity, provided that they comply with the rules laid down and printed in the September number of the JOURNAL.

Below you will find the names of the members of the Committee on Scientific Work and the names of the Chairmen and Secretaries of the various sections:

Program Committee.

Dr. A. B. Grosse, San Francisco, Chairman.
Dr. Harry E. Alderson, San Francisco.
Dr. F. C. E. Mattison, Pasadena.
Dr. R. A. Peers, Colfax, Secretary.

Section Chairmen and Secretaries.

Eye and Ear Section:

Dr. Geo. P. Wintermute, San Francisco.
Dr. B. F. Church, Redlands.

G-U Section:

Dr. Wm. E. Stevens, San Francisco.
Dr. Victor G. Vecki, San Francisco.

Gynecology and Obstetrics Section:

Dr. E. N. Ewer, Oakland.
Dr. A. B. Spalding, San Francisco.

Nervous Diseases and Psychiatry Section:

Dr. Andrew W. Hoisholt, Napa.
Dr. Ross Moore, Los Angeles.

POST-GRADUATE SCHOOL.

The past fifteen years have witnessed a progressive development of the medical school until to-day its standard of academic excellence exceeds the sanguine hope of those to whom it had been merely a vision. Through its medical department the state university, roused to a sense of responsibility, has generously met the demands of public interest and welfare. But does a university completely fulfil its public purposes by the provision of facilities, however ample, for the better education of its undergraduates and by fostering intensive research in its clinics and laboratories? Is its mission ended with the charitable work of its hospital and clinic and with its activities in the field of hygiene and preventive medicine? Is not the university as a state school overlooking an important field of endeavor to which its facilities can be readily adapted?

Once cast loose from the curriculum the physician never again enters upon a formal plan of study. The accretions of his knowledge come more or less continuously through the channels of his own experience, haphazard discussions with his fellows, observations of their work, society meetings and such medical writings as by taste, preparation or inclination he may choose to read. There are probably many engaged in active practice, who long to return to the class-room, though perhaps it is no more than the longing of despair. They read medical science, but neither see nor hear it. As methods of investigation are developed or bring to light new facts they have no accessible opportunity to observe the working of these methods or to learn their application from those competent to discuss them.

In view of such a lack it would be desirable to effect some arrangement whereby those who would avail themselves could join a class in any special subject. Such an undertaking would seem to be within the proper province of the state university, a consistent part of its function as an educator. The suggestion contemplates the offering of courses to advanced or graduate students in purely academic work—not necessarily clinical instruction. Topics for courses can be readily found—for example, the recent developments in biochemistry, or again in the physiology of the circulation, in the interpretation of X-ray plates, etc. The institution of such courses will certainly bring the medical department of the state university into closer contact with the medical profession of the state, a very desirable relation.

USEFUL DRUGS.

The Council on Pharmacy and Chemistry of the A. M. A. can certainly not be accused of being a dry and useless thing. It has, through the Association, published a large number of both interesting and valuable pamphlets and books. Quite recently it has issued a dose book of useful drugs. This may be obtained from the Association for 10 cents a copy. A more extended

book on the same subject, with a considerable amount of descriptive matter appended to the discussion of each drug enumerated, can be had for 50 cents by addressing the Association. Either of these is worth many times the price.

NOTICE.

A course of lectures on medical preparedness is being given in the Library of the San Francisco County Medical Society every Thursday afternoon at 5 p. m. by the Army, Navy and Public Health Services.

While these lectures have not been attended by the large number who were expected, this is possibly because their attention has not been sufficiently drawn to them. A synopsis of the September lectures was published in the September JOURNAL, of the October lectures in the JOURNAL last month, and in this issue will be found those to be given in November. The November lectures will certainly be every bit as instructive and interesting as those of October, and should be attended by all, regardless of whether or not they failed to hear the first series.

Those who have any doubt as to the necessity of preparedness are urged to attend the meeting of the San Francisco County Medical Society on November 14th at 8:30 p. m., when they will be addressed by General Bell.

SWINDLERS.

From Oakland comes a communication referring to the fact that certain individuals are going around taking fake subscriptions to various publications, medical and otherwise, from physicians. In the present case the doctor's check was cashed by an optical company, but the notice which we printed was in time to save him the money, as the check had been stopped at the bank. The notice appeared in the September number of the JOURNAL, and in connection with the letter it might be well for you to refer back to it. Herewith is the letter:

"Sept. 16, 1916.

"California State Medical Journal,

"San Francisco.

"Gentlemen:

"The young man you described in your last issue has with him now a helper. He has light brown hair somewhat thinned out on top, fair complexion, and is of medium height and build. The description of the other man as printed in the JOURNAL expresses him very accurately. They had a very complete printed list of periodicals, both medical and lay, and represented themselves as students who were endeavoring to obtain a scholarship in the University of Washington. I enclose the mementoes of their little visit.

"Very sincerely,"

In addition to the above it may be noted that another man, tall, thin, blond, much hair, has been working in San Jose, and that still another bunco artist, alleging himself to represent Appleton, has been working in Oregon and Washington.

\$5000 VERDICT—HOW WOULD YOU LIKE IT?

In the early part of October, a suit against one of our members was tried and, against all justice and in face of the law and the facts, the jury awarded a verdict of \$5000 against the doctor.

It is not possible to go into details, but the case arose out of an exploratory operation to differentiate between fibroid and possible pregnancy. The patient did not like the pregnancy nor the 10-pound baby that came in time, and as a result sued the doctor. From this you will see that not all damage suits originate in fracture cases. Of course we will appeal the suit, and in all probability will win it on appeal; but suppose that we do not win it and there is no indemnity fund created! There should be 1000 subscribers to that fund, and if our members will only awake to the necessity of protecting their own interests, there soon will be.

REPRINTS.

Once more let us make the statement clearly and definitely, that the JOURNAL has nothing to do with the matter of reprints except to receive the order and transmit it to the printer. No money passes through our hands or our books in connection with reprints. If checks are sent to us, they are either returned to the sender or transmitted to the printer. A question was raised a short time ago as to the increased price for reprints. This is fully explained in another note referring to the increased cost of all materials. As it is, the printer has endeavored to fix a price that will just about pay for the cost of production, making practically no profit whatever on these reprints.

SCIENTIFIC ACTIVITY.

As a rule scientific societies do not pay much attention to the use of publicity for the purpose of interesting laymen in their work. During the last few months, however, a most remarkable example of activity in the right direction has been shown by Mr. Allen Rogers, chairman of the Press Committee of the American Chemical Society. From week to week, and almost from day to day, he has sent out to a number of publications news items and interesting abstracts of matters relating to chemistry and the chemical industry, most of which are exceedingly readable. It is a pleasure to congratulate Mr. Rogers upon his intelligent energy.

STATE PASTEURIZATION OF MILK.

On October 1st, the state law relative to pasteurization of milk went into effect. Some movement of this kind has been needed for a long time, for while it has been possible in the larger cities to demand and secure a fairly clean milk, it has not been possible to do so in the smaller communities.

A most interesting article on the subject of

commercial pasteurization has been prepared by Dr. J. Traun of the Veterinary Laboratory of the University of California, and Dr. G. H. Hart, Veterinarian of the Department of Health of Los Angeles. Those who are interested in the subject can doubtless secure reprints of this article from the authors.

THE HEALTH OF SACRAMENTO.

Dr. G. C. Simmons, Commissioner of Public Health and Safety of the City of Sacramento, has been good enough to send the JOURNAL a copy of the annual report of the Health Department for the year ending July 1, 1916. From this report it appears that there were twelve less deaths in that year than in the previous year. The Commissioner points out that the health of the city has been maintained with efficiency under the new system and without the services of a full time paid health officer, with a reduction in cost to the city of over \$5700. The Commissioner is certainly to be congratulated upon his showing, though in all justice to the services of the previous health officer, it might be noted that the city water is still being chlorinated, which undoubtedly has its beneficial effect in the matter of reducing typhoid.

PHILIP MILLS JONES, ATTORNEY.

The legal difficulties and troubles of the many members of the Society took up so much time of the Secretary, and it was difficult to get lawyers to understand medicine, that the Secretary had to study Law, and on October 19th, 1916, passed the Bar Examination and was admitted to practice as an Attorney and Counselor at Law, in all the courts of the State.

PATRONIZE THOSE**WHO PATRONIZE YOUR****JOURNAL**

ORIGINAL ARTICLES

COOPERATIVE MEDICINE IN RELATION TO SOCIAL INSURANCE.*

By JAMES L. WHITNEY, M. D., San Francisco.

In the proposal of Social Insurance which occupies us to-night there are two distinct questions. The first is an economic one: Shall we adopt a method by which the cost of sickness can be distributed over the whole community instead of bearing on the individual and his family alone? That is, shall we, by insurance, not only pay a man's doctor's bills and hospital fees, but also give him during the period of idleness the whole or part of his regular wages? The second question, which is not necessarily included in the first, relates to the kind of medical service to be given, provided this proposal becomes a law. Shall we allow the new method of obtaining and paying for medical services merely to fit as it can into the old-fashioned system of private practice (as was done in England); shall we continue the old system, but encourage its development along certain lines; shall we utilize the existing facilities for economical cooperative medical service, that is, the present charitable dispensaries and hospitals; or shall we have a new system entirely, such as state medicine in whole or in part, or prescribed medical service under the control of insurance carriers?

As to the first question, the actuarial or economic problem, I have little to say to-night. But the purely medical aspects of the case surely deserve careful consideration as well.

There is little doubt that the next few years will see profound changes in the method of medical practice. Of the medical profession itself, many are actively campaigning for reforms, others would welcome a general revision of methods but do not see clearly in what way this is to take place, still others fear the change and are fighting it, but none are so blind as not to know that a new order is on the way. In how far is this agitation for social insurance a part of the dissatisfaction with medical practice as it is? Should we as doctors, knowing better than any one else the limitations of the present medical system and the possibilities of its development, be for or against the propaganda? Can this social and economic reform be made to go hand in hand with medical development, so that the attainment of one will mean the furtherance of the other?

MEDICAL PRACTICE AS IT IS.

Let us consider the criticisms of medical practice as it is. Much has been written lately as to the inefficiency of medical service under present conditions. It has been pointed out with emphasis and detail that the free patients in our great hospitals are getting the best service of which modern science is capable; that the wealthy classes, who can afford expensive consultations, high priced surgeons and specialists, and numerous laboratory and x-ray examinations, are getting almost but not quite as good service; but that the great mass of people, and the best part of the community at

that, are falling far short of what they could have for the asking if they were only paupers. While there is a good deal of truth in this statement it has unfortunately been made in such a way as to be unnecessarily productive of bitter feeling. The point of view has been emphasized alone that the patient is not getting what he is entitled to, with the almost necessary implication either that there is an unusual amount of incompetence among doctors, or that they are wilfully persisting in a system which they know to be outworn. It has rather added to the ill feeling that these critics have always been men who have played a prominent part in the development and extension of free hospitals and dispensaries, since the latter have long been a thorn in the side of all those of the profession who do not participate in them. With regard to the implications against doctors in general, it should be said that probably no profession or business is in the hands of men who average so high in intelligence, honesty, and social consciousness, and that though they do their work after a system which is uneconomical and inefficient, it is they themselves who are making the strongest efforts to change that system. As a matter of fact (and this the propagandists have barely mentioned) it is the doctors themselves who have been the chief sufferers from the stupidities of the present methods.

ADVANTAGE OF GROUP PRACTICE.

In this day no argument is needed as to the superiority of medical work by large groups to that which can be done in the ordinary way. There was a time when one brain could hold all that was worth while in the medical sciences, but that day is long past. At present no one man is able to give the right service to all cases as they come and it is equally true that the majority of single cases need the services of more than one consultant. Not only does the ordinary medical case need the opinion of specialists on eye, skin, throat or gynecological conditions as well as more laboratory and x-ray work than any one man can furnish, or any ordinary patient pay for, but the reverse is true: the great majority of specialists' cases as well need a thorough overhauling by a general consultant. This cooperation must be free and informal and must be part of the routine in the handling of cases, not something to be especially arranged for. It is evident that this can be had economically and efficiently only when a large group of physicians used to each other's methods are working side by side.

Such a plan means of course the development in considerable numbers of rather elaborate dispensaries and hospital wards. Experience has shown that this method gives both patient and physician the best results. The routine and machine-like precision of our great hospitals was probably developed largely to save the time of the physicians on duty without reference to the desires of the patient, and supposedly, at first, with some sacrifice to him. But this very routine has worked such brilliant results in efficiency as well as economy that in the interests of the patients themselves it is

* Read before the San Francisco County Medical Society, September 12, 1916.

fast being extended to pay-practice. The greatest example of such organization in pay-practice is of course the Mayo Clinic. Just as interesting examples of the steady drive toward organization in modern medical work are Dr. Birch's highly successful diagnostic section at St. Luke's, and the rapidly progressing organization and standardization which is quietly taking place everywhere to meet the necessities of the Compensation Act. Even the private office has become in many cases a small dispensary where several men work together with division of labor according to the kinds of work which each man can do better than the others.

SLAVERY OF THE SUCCESSFUL PRACTITIONER.

What I want especially to emphasize is not only the better results to the patient from such the endless slavery of ordinary practice, the opportunity given him to develop along his own best lines, and to delegate to others work which they in turn can do better than he. I recently heard it said of a prominent obstetrician in San Francisco that he often delivered personally over forty cases a month. When so much of the work involved in obstetrics is pure routine and waiting, and when this lower class work could so easily be delegated to younger men, as in hospitals, or at least taken by a group who divide their time by service on and off, it seems impossible to defend the present scheme in the interest of either patient or physician. If this obstetrician is a man of unusual talent (as he is), why should he be exhausted and his time completely taken up with routine work on forty patients, when he might be giving the best of his abilities to many times that number by general supervision of all and the personal management of only the difficult and unusual cases? It seems to me the severest indictment against the present medical practice is that the physician himself is prevented from following his best bent to the limit, and is forced to do work that is largely beneath his talents. Not only is he prevented from doing that one thing which most interests him, and which he can do best, but, in doing the work which he should not be called upon for, he is actually doing bad work.

SITUATION OF THE YOUNGER MEN.

And this routine work which is making of an active practitioner the most slavishly bound man in any profession, robbing him of opportunities for self-development and forcing him to do work below his ability, could just as well be done, perhaps better done, by the young man who spends the first five years of his professional life in actually not supporting himself. Worse than the purely financial aspect of the young man's bitter struggle seems to me the enforced idleness of the first few years, the lack of opportunity in his very best period to make use of his ability and energy. A few have the opportunity to satisfy the craving to put their abilities into service by spending part time in free dispensaries and hospitals, and what an absurdity is here! A man does in the morning under the best of conditions and at top speed the best work of which he is capable. For this he receives no pay, while in the afternoon he is paid for

work of which he cannot properly be proud, on a scale that is absurdly above what it should be under economical management. I think I see a sign of the times in the reluctance with which our graduates who are finishing their intern services face the prospect of breaking away from the beautifully organized and satisfying life of hospital service. There are at present, more or less formally attached to our teaching institutions and hospitals, hundreds of young men, eager to use their training and abilities, who nevertheless cannot bring themselves to face the prospect of private practice. For what is that prospect? A weary period of waiting for work and self-support, to be followed by the slavery of the successful practitioner's life.

THE FINANCIAL SIDE.

The financial aspects of medical practice are a subject of discussion which any cautious man should approach with the greatest misgiving, yet it ought to be faced frankly.

I will not dwell on the terrible hardship to the average family of the doctor's bills, not to speak of hospital and nursing expenses, always to be met without anticipation and at a time when other expenses are heavier and when the family income has often ceased from sickness of the earner. In this hardship the doctor shares quite as fully as the patient, for a large number of such cases must be handled free or at reduced rates. If the doctor's income depended on the annual payment of a small fee during health, there are few families who could not pay it, and the irreducible minimum of unpaid work could be referred with a free conscience to public institutions.

The truth is that we as a class live by the misfortune of our fellows. Gloss over the fact as we will, it is to our financial advantage when people are sick, and our loss when they are well. I do not of course mean to imply that this fact prevents the physician from doing his best to cut off his own income, but the position is nevertheless false, and reacts unfortunately in a number of ways. The conscientious doctor, who would really like to follow his patient carefully by occasional examinations during health, and by frequent visits in the convalescence from an illness, usually fails entirely to do so—either the patient suspects him of prolonging the period of observation for the sake of the fees and stays away to save money, or the doctor himself, from oversensitiveness to this possible accusation, or merely in order to make the bill as reasonable as he can, allows the opportunity to slip to do real preventive work. It is unfortunately true that the physician for the most part sees his patients only when they are in trouble and rarely has the opportunity to sight that trouble from afar and prevent it. This state of affairs seems unavoidable while doctor's fees are paid as they are. How different would be the whole attitude if payment were by the year, sick or well! How much freer we should be to insist on thoroughness of examination, on frequency of visits, on more elaborate and expensive forms of treatment! Such zeal would appear in its true light as interest in the patient's welfare, and there would be no suspicion of eagerness to hold patients at any

cost, to make our fees larger than necessary; it would never be suggested that a surgical operation was recommended because that meant a larger fee. Since the patient would feel perfectly sure that the advice was unbiased he would be much more likely to follow it.

To make the practise of medicine apply as it should to other than emergency situations; to make the public understand the necessity of frequent examinations, the value of supervision rather than mere treatment, the possible importance of trivial indispositions, methods of avoiding infections, and a thousand other things, much propagandizing is necessary. This is, of course, almost wholly impossible for the ethical practitioner. It is only within a few years that it has even been considered respectable for a doctor to appear at all in public print. It is a sign of the awakening of the profession to its larger duties, that such a series of articles as those of Woods Hutchinson not only have appeared but have been received with uniform approval. But the application to the individual of such campaigning methods is still for the most part impossible. A practical recognition of the principle that a doctor should have an absolutely free hand and that he should be the judge as to when and how often the patient should be seen is to be found in the growing practice of pediatricians of charging by the month in baby cases and using their own judgment in these matters.

This financial question has subtle effects at every turn. It cannot be expected at present that a doctor will turn over a patient to a man better fitted to handle that particular case or even will be free to suggest consultation,—in mere self-preservation he has to "keep his patients." This necessity of proprietorship in a patient works unfortunately even in its reverse action. The exaggerated consideration which the consultant must show to the rights and susceptibilities of the other man almost wholly destroys all the frankness and the real value in a consultation. How different in tone are the consultations held in a free hospital where there is no financial consideration acting in either way.

IRRESPONSIBILITY OF THE PRACTITIONER.

One of the most serious results of the peculiar financial relationship between doctor and patient, and the consequent lack of cooperative work, is the absence of any supervision in the handling of cases. In the great majority of cases one man alone takes the responsibility, and the secrecy with which he can thus cover his work is fully protected by public opinion and even by the law. There is no check whatever on bad work. One of the salutary effects of the compensation law has been found to be the absolute necessity, from the point of view of the insurance carriers, of a system of supervision and standardization of work. This system necessarily eliminates some practitioners whose work is below standard, but surely such a result is not one against which we should fight. Only the incompetent has anything to fear from supervision and free consultation—in fact it will bring to the doctor that which he at present so sorely misses, that free intercourse with others in his work, the exchange of ideas, stimulating crit-

icism, opportunity to learn from men who have developed in some special way. Such opportunities come now only to the fortunate few who work in a big organization, and they make up the great value of such a connection.

The evils of general practice as it is can be completely summarized under two headings. First, those due to the wrong financial relation of patient and doctor which makes the best care a prohibitive luxury to the former and forces the latter to do a large amount of free or underpaid work; stands in the way of perfect confidence between patient and doctor, even if not actually encouraging dishonesty on the doctor's part; and almost wholly shuts off the preventive and follow-up work which ought to be the main business of the conscientious physician. Second, those due to lack of organization; the lack of supervision and standardization of the physician's work; the unreasonable slavery of his life, which involves the cutting off of intercourse with the best of his kind, the loss of opportunities thus to keep up with the progress of the day and to specialize along some line which particularly attracts him; the failure to utilize the younger men at all for the most part, and therefore the necessity of imposing the lower-class routine work on men whose time and abilities ought to be available for high-class work on large numbers of patients.

A CO-OPERATIVE ORGANIZATION.

Consider for a moment the possibilities offered by a thoroughgoing adoption of a co-operative method. Suppose a man just graduating from medical school were offered a position at the bottom of the ladder in an institution which included hospital beds, dispensary, and a home-visiting section. Year by year as he shows his ability he is to be advanced to more responsible work and have more of the routine taken from him. Extra work and night work are to be taken in shifts. He has his regular vacations, has leisure for reading, research if he chooses, and the opportunity to go further than his fellows in any particular line which suits his taste and ability. He has constant, stimulating contact with others and the inspiration of working under big men as leaders. For this he is to be paid a salary which from the beginning is sufficient for self-support, and is increased with his advance to an average much above the average income of general practice. Add to this his knowledge that the patients, by paying a yearly fee, are under no financial hardship on his account, and that every decision is entirely free from monetary considerations. Would anyone hesitate a moment about accepting such an offer? It is curious that the matter of working on a salary has proved a stumbling block to many. Is it necessary that a doctor should be paid by the piece to induce him to do honest work? Are physicians the only men in the world who cannot be trusted to receive a salary and deliver full value for it?

I can see no reason why the medical profession should have any misgivings as to the coming of a system such as this. It may mean the passing of the institution of private practice, but it certainly does not mean the elimination of the private practitioner as an individual—it means merely that he

will change his methods and swing into line with modern progress.

POSSIBLE METHODS OF ORGANIZATION.

If we grant that the two fundamental faults of present medical practice are the wrong method of payment and the lack of organization, it is obvious that any radical changes to be made will be along these lines. It is also obvious that either reform could be made separately, but that the best results would be attained through a system which struck at the roots of both.

We must be open-minded in considering what means may be adopted to further both of these ends. Cabot has proposed that the community organize itself into groups following the precedent set in certain cases where group-organization is already at hand, as among the students of the University at Berkeley, or among mining or railroad employees. A complete organization by the initiative of the community itself, however, seems beyond hope of accomplishment. It is too much to expect the laity to act in a matter where those best informed—the medical profession—have failed as yet to evolve an ideal scheme. Moreover, if the people at large could be interested in the matter sufficiently to make them act at all they would probably make the organization complete and arrive with one leap at state medicine.

STATE MEDICINE.

This latter result, a thorough socialization of medical practice, is a possible solution which is always brought up in any discussion. We must all of us feel that state medicine is very likely the ultimate goal. It is public policy that the health of citizens be properly protected, just as it is public policy that every child should have a sufficient education. We may look forward to the probability of a great system of free dispensaries and hospitals in which the staff are paid by the state and where service is open to rich and poor alike. But there would be pretty general agreement that we are not yet ready for this abrupt change, that it would be unwise even to advocate it seriously. There is too little evidence in our present governmental institutions of efficiency and freedom from political methods to entrust them with the control of the whole medical situation. Although we shall some time develop enough social conscience to demand efficiency and honesty in the management of government affairs, such development comes slowly. The premature introduction of state medicine with the failure which would almost certainly follow would mean that such another experiment could not be tried for years to come.

PRIVATE CLINICS.

Another solution may lie in the voluntary banding together of physicians into private clinics like the Mayo institution. This also could be accomplished sporadically, but each such institution to be successful would demand an organizing genius like that of the Mayo brothers. The result, in order to affect the medical practice of a hundred million people, would mean the foundation of thousands of dispensaries and clinics, running in competition, more or less at cross purposes, and meeting, each in its own way, the same problems. It should be

pretty evident that the next development would inevitably be a consolidation of such institutions into one or a few great organizations.

ROLE OF CHARITABLE INSTITUTIONS: DISPENSARY ABUSE.

Another proposal has been that the charitable foundations simply extend the benefits of their existing plants and organization and enter the field of pay-practice. This has already been put in operation on a small scale by a few hospitals such as the Johns Hopkins and the Massachusetts General Hospital. This has of course met with the bitterest opposition in many quarters.

Probably a good deal of the opposition to any sort of socializing change in medicine, such as the adoption of the hospital and dispensary system, has arisen largely from a feeling against such institutions as they now are. The so-called dispensary abuse, inevitable as it is under a system where the best service is far beyond the means of the middle class, yet freely given to the lowest, is still a very real grievance to the practitioner who sees the class of patients who are perfectly able to pay him small fees being handled free by charitable institutions. It should be made plain to the profession at large, however, that such encroachment of charitable institutions has been undertaken only because of the manifest unfairness of excluding the middle classes from the highest grade of consultation when the machinery was all ready and in use. There is no doubt that the great majority of the patients capable of paying go to such institutions not to avoid any reasonable expense, but because they have found the general practice not organized to provide the special class of attention which their cases demand. There has been no other organization available, except the charitable hospitals, which could take up this work for less than a prohibitive fee. But can we doubt that, such machinery being provided, these institutions would immediately return to their particular field, that of caring for the irreducible minimum of actual poverty? Any further assumption by charitable institutions of work among pay-patients would be, except as a purely temporary measure, unfair to the general practice, to their own staff, to the class for whose benefit they were founded and to the pay-patients themselves, since it puts them unnecessarily into the class of recipients of charity. But protestants against this new activity of charitable institutions may well be warned that it will continue to increase until the class of physicians who should naturally have the care of these patients are sufficiently organized to give them as good care as the state of medical knowledge makes possible.

INSURANCE MEDICINE.

Any of these methods proposed—the formation of groups by physicians or by the people to be served, or extension of pay-practice by existing institutions—would provide the organization required. But it is doubtful if the financial reform could also be accomplished unless, indeed, the organization were on a very large scale, covering a territory at least as large as a state. While the problem is very simple when insurance is compulsory on a large and unselected group of employees

or students, it must be understood that such a system of payment becomes a very complicated actuarial problem when made voluntary and the so-called adverse selection is given a chance to operate. It is evident that people already sick cannot be received at the same rate as those in health, for in that case the system would be exclusively utilized by those needing the most expensive care, and the cost would be prohibitive. An elaborate method of rating all classes of risks must be worked out, and this of course would not only demand the services of the most expert actuaries, but would require that rates be uniform over large territories. If to this intricate problem of rates we add that of paying sick benefits during illness, it is evident that a large insurance equipment is required such as might be furnished by existing companies or by the state. This brings us direct to the expedient of a thoroughgoing system of insurance medicine of some kind.

In speaking of insurance medicine I do not mean to specify any particular variety. I refer to any system in which payment is by insurance methods and where organization of practice will be possible. The question of whether the insurance is to be compulsory, whether it is to be carried by private companies, state fund, or smaller funds with state supervision, what the limits shall be as to admission of patients, etc.—these questions are details which are largely of a political, economic or actuarial nature, and of these I do not wish to speak.

As to the general fitness of the insurance method to make medical practice satisfactory to both doctor and patient there is hardly, as it seems to me, room for argument. If the whole financial situation is made fundamentally right for both parties concerned, not only will the terrible burden of sickness be removed from the patient and his family, but the physician will profit as well, both financially and by being enabled to do thorough and honest work. There will be a strong impetus to preventive work of all kinds because it will be to the interests of all concerned that there shall be as little sickness as possible.

By this means it will be possible to build up gradually an organization, which ought eventually to include the majority of practitioners, with an elaborate system of graded dispensaries, hospitals, and sanatoria, means for handling simple cases locally, for passing up the more unusual cases to higher institutions for special study. There will be division of duties and utilization of younger men for lower class work, thus making available the unusual ability of exceptional men for large numbers of selected cases instead of wasting such ability on routine.

Organization and the putting of medicine on an economical and efficient basis will be the natural result of the insurance method—no company or state fund could long continue to do business without it. Compensation insurance gives an instance of this. The last few years have seen in this field a marked tendency of both private companies and state funds to organize their medical work in just this way—to increase the supervision, to insist on

free use of consultation, and to give more and more of their work to a salaried staff.

There will of course be prejudice against this method, especially if carried on by private companies rather than the state. Such prejudice will rest partly on objection to so-called commercializing of the medical profession, partly on the supposed loss of independence of the doctor himself, largely, however, on the fact that insurance medicine as applied in this country has uniformly been a melancholy and even scandalous failure. The same objections were brought up in the opposition to the compensation act and a sufficient answer to them might be that these fears have not materialized. The result of "commercialism" in this case is that doctors are now being paid in full on a proper scale for work which was previously largely free, and that the patient no longer bears the financial hardship. The loss of independence has been felt only by those whose work has either been dishonest or incompetent—for such, to be sure, the insurance carriers are preparing even more stringent regulation. Practice under the act has not followed the precedent of former insurance medicine—it is fully as competent as was previously furnished by the same classes of physicians, and is rapidly being improved by the supervision to which it is being subjected.

FAILURE OF INSURANCE MEDICINE HITHERTO.

Insurance methods have been a failure in this country because they were badly carried out. No very responsible company has engaged in it and the effort has always been to secure cheap service rather than good service. I believe, however, that the real reason of its failure has been that no real effort has been made to promote efficiency of medical service by organization. There are a few instances, such as the California University Infirmary and the Southern Pacific Hospital, where such organization of medical practice has been combined with some form of payment by insurance. In both of these cases the success has been brilliant and has resulted in satisfaction to both physician and patient. The former works under the best conditions for satisfactory remuneration and the latter gets for five or six dollars a year excellent dispensary and hospital care at the hands of a highly trained group of specialists. No one has thought of including these and similar institutions in the general condemnation of insurance medicine.

In these instances of course special conditions have favored success and it is perhaps not fair to push the illustration further. But it is no less unfair to consider the half-hearted attempts which have failed in this country as typical of what insurance medicine has to offer. We should rather study the working of such a system as it exists in almost all of Europe. Here the success in settling the financial problem for both physician and patient has been such that few indeed in those countries would willingly go back to the old way. As much cannot be said as to the success in obtaining first-class medical service, but this is because an evident opportunity was neglected. In England, for example, the easiest way was to bind permanently the

new method of payment to the inefficiency and waste of the existing system of private practice. Perhaps no one had the vision to see what the opportunity was, but there is no question that the method which is now established will greatly hamper medical progress. There has been no deterioration of medical service under the act, but there has been no great impetus to improvement.

THE PROPOSED LEGISLATION.

The present proposal of so-called social insurance is essentially that of health-insurance by state enactment for a limited class of workers. There will be a thousand details which will have to be settled later, but at the present stage the question is wholly a general one. Is a system of social insurance of some kind desirable? I believe that the medical profession should be in its favor for two reasons. First, because it seems the only practical and just means of ending an intolerable economic situation. Second, because it can be made the means of furthering the necessary development of medical practice along the lines of co-operation. But we must insist not only that such co-operation be permitted but that it be actively encouraged. Although we must believe that medical organization must follow the adoption of the insurance method, its development unaided will be slow and it can be almost wholly prevented if the bill as passed should specify that private practice in its present form must remain the prescribed medical service.

In order to favor organization it is of course not necessary that a huge machine be created at the start which is to overthrow medical practice as it is. If the beginning is right, on however modest a scale, its further development will take care of itself.

It is not even necessary at the beginning to have all the plans for future development ready in advance. It would, in fact, be very unwise to write into the law any fixed method of procedure. But we should see to it that the law as finally passed allows the state fund or other insurance carrier the fullest powers of supervision and inspection and allows to be combined with such supervision a system, as elaborate as necessary, of special dispensaries and hospitals for intensive study of those cases which demand it.

Such a system should be so constructed that it cannot be considered as something imposed on the general practitioner, but as an organization in which each man plays his part, great or small according to his ability. In any case he will have the benefit of high-grade consultation and free contact with others at all times. As his abilities or tastes prove themselves he will take his place in the special institutions and pursue under the best conditions whatever particular line he pleases.

POSSIBLE EXTENSION TO MIDDLE CLASSES.

The bill which is now proposed will, if compulsory, affect perhaps thirty per cent. of the population, though another twenty or thirty per cent. may be included as voluntary policy-holders under its provisions. Can the remaining fifty per cent. of the community be made to benefit also by health insurance? There seems little question that the

superiority of this scheme, if it is properly managed, will be so striking that all classes will soon be making wide use of the insurance method. For this development as well we ought to prepare with an open mind. And it seems to me that this is an additional reason for making a beginning with some method such as that proposed—that its effect will surely not be confined to the immediate class which is specified, but will eventually lead to the attainment of that greater ideal—that all classes of society shall have accessible for a price which they can pay the best medical service which modern science is capable of furnishing.

Discussion.

Dr. I. M. Rubinow: There is little that I can add to the convincing argument which Dr. Whitney has made in such a brilliant way. There can be little doubt that the future development of medical practice will be on the general lines indicated by him—that the Social Insurance system undoubtedly should and will stimulate this very development.

Perhaps the only thing I can do at this moment is to suggest a few words of caution. As Dr. Whitney himself has stated, theoretically at least, the problem of desirable changes in the organization of medical aid is somewhat independent of the problem of health insurance. In one case we are dealing with the problem of social evolution which may be discussed irrespective of time consideration, and in the other with a very practical program advocated as an immediate step is entirely possible at present. It is not only that I am morally convinced that a large proportion of the medical profession are not yet willing to relinquish the present standards of practice, but what is more important the people at large are not quite ready for such a change, which as Dr. Whitney points out, necessarily does away very largely with the principle of free choice of physicians.

I could say a good deal on the harmful results of free choice of physicians (I have said it in my recent book on health insurance), that would only supplement what Dr. Whitney has already stated. Nevertheless, it is worth while remembering that we have numerous prejudices to overcome in getting the message of health insurance to the people without antagonizing them on this point as well. The beneficiary, under the system of health insurance, will at this particular moment strenuously refuse to endorse any system that seems to deprive them of the privilege of free choice, as they are opposing the absence of free choice under compensation, and I am enough of a democrat to admit the undesirability of insisting upon a reform which the masses refuse to accept.

Do not misunderstand me as opposing the principles advocated by Dr. Whitney. It is true that the members of the medical and legal profession are perhaps the only ones in the liberal professions who still work largely on a piece-rate basis. Perhaps the misfortune is that we still have many people in the medical profession who expect to make, not only a living, but a fortune out of it. I think the sooner we agree that professional work does not offer any road to financial fortunes the better it would be for the profession as well as for the people at large. There are many other lines of activity in which persons with financial ambitions can apply their energies with a much better chance of succeeding, than in the practice of professions, and the chances of realizing such conditions in medicine are notoriously poor. The legal profession seems to be the only exception to this. But even there, as a matter of fact the high incomes of legal work are really business incomes much more than professional incomes.

While I think it would not be wise at this stage to tie the program of health insurance absolutely to the ideal of thorough medical organization, or even to group practice, the least we can do is to very carefully provide that when a health insurance system is established the door is left wide open to future progress in organization of medical aid. I think it would be just as serious an error to tie up health insurance to private practice as has been done in England, with comparative little opportunity for progress. When health insurance is established the financial relation between physician and patient will undoubtedly undergo a very substantial change, and I hope that the first result of such a change will be in encouraging the spontaneous development of group practice. It is the duty of those progressive minds in the medical profession to see that no obstacles to such spontaneous development are placed in the law.

One of the valuable features of Dr. Whitney's paper is the broad vision which goes even beyond the necessarily limited circles to be provided for by any immediate system of social insurance. None of the plans advocated at present goes so far as to include the large middle class. There is little probability that for some years to come any such extension of social insurance provisions, especially compulsory insurance provisions, will be advocated. As an economist and social reformer, I may be satisfied at this stage to leave this problem to the classes concerned themselves.

As a warden of people's health Dr. Whitney necessarily must be concerned in the entire population, irrespective of economic standing. How the evolution, on lines advocated by him, is to be realized is an open question at present. The Mayo Clinic offers one method. It is, however, a large scale experiment, perhaps not readily applicable everywhere. Private insurance enterprises might be able to meet the problem. Perhaps, because of my familiarity with private insurance I may be forgiven for not being too enthusiastic about it. I am confronted by the fact that through thirty years of experience with health insurance they have not even seriously undertaken to include any kind of medical aid. Their relations with the medical profession under compensation are not always so efficient or so disinterested as the realization of Dr. Whitney's plans would make necessary.

Furthermore, this is an economic rather than a medical consideration, their methods of business administration at present are too expensive to permit of a satisfactory and economic organization of medical aid. Yet all these difficulties are not unmountable, and in so far as we are dealing with a problem in relation to the prosperous middle classes the niceties of cost differences are perhaps not as important as in dealing with plans for insurance of wage-workers.

Again Dr. Whitney's distinction is very well taken between compulsory social insurance where no selection *against* the insurance carrier is possible, and therefore no selection *by* the insurance carrier is necessary, and voluntary insurance where the selection of the adjustment of rates to physical conditions becomes absolutely imperative if the solvency of the insurance carrier is to be protected.

It is more than likely that the very realization of health insurance plans for wage-workers is going to stimulate provision for medical aid through insurance among the middle and upper classes.

While I do not intend to dwell at this place on purely economic or actuarial problems, it is perhaps worth while pointing out that even within the middle classes cooperative insurance organization is not at all impossible and that enterprise of private capital is not absolutely necessary. It is a fact not generally known, that there is a very

substantial amount of mutual accident and sickness insurance written in this country. This business follows in general lines, the practices of commercial insurance, except for the elimination of profit and considerable reduction of expense. It would seem that this form of organization would offer at least as good a vehicle for better medical organization as private stock insurance. These details may not be very important. They emphasize no essential difference between Dr. Whitney's point of view and mine, but I do not mind registering my preference for cooperative effort when it is possible. I recognize that at present in a good many fields of activity, private enterprise stimulated by desire for profit making is absolutely necessary. But when I think of an ideal system, I prefer one in which the medical profession would receive and would be entitled to all that the community is ready to pay for medical aid with as little loss as possible to any intermediaries.

Dr. J. Rosenstirn: Whilst I have only listened to about half of the excellent paper Dr. Whitney has read, I have, I think, caught the gist of it, and may be able in some way to discuss it. I believe I shall be able to discuss it impartially, as at this time of my professional life I trust not to be accused of talking *pro domo*. Most of my practice lies behind me and not so very much before me.

One of the most desirable ideals to be realized is: to provide for the poorer classes an adequate and good medical service without subjecting them to any unnecessary and harrowing expense. Among these I include the wage-earners whose earnings are below a certain sum—an income that just allows them to go along with a family decently and perhaps save a few dollars during the year. These people, who are not paupers, who refuse charity and wish to pay according to their means, do not get the best medical service and for these the work that Dr. Rubinow advocates is the very thing that we ought to strive for. I believe that health insurance, more exclusively handled than the present compensation service; not in companies, but by the state only, would be the ideal way to solve that problem. The dues should be paid by the insured, the employer, and the state. There should be free choice by the patient, among those doctors who wanted to join and offer their services for the necessarily smaller but assured fees.

With this, my confession, I have already expressed my criticism of Dr. Whitney's paper, indicating as I did the limits I believe health insurance should observe and the classes of the general populace it should include. But why generalize it, and extend it to the entire population, and deprive the medical profession of their independence; render them slaves, even more so than they are now?

In the employ of insurance companies physicians will have to act as employees, thus destroying the free exercise of the grandest of all professions.

All intimate relations between patient and doctor, so valuable to the success of treatment, the suggestive part of it especially, are lost, and the personal confidence, based upon free choice of physicians, exercised by the patient, will also be a joy of the past. I believe that it is no more than just that those who can, should pay a reasonable fee to our profession, whose generosity is much abused. No physician should be induced to give up his independence for the benefit of insurance companies.

Dr. Philip King Brown: No one can for a moment doubt the truth of the proposition advanced by Dr. Whitney, that groups of well-trained men, hospital service and modern equipment, can do better work than men meeting emergencies in medicine or surgery without these things. I do say—I am speaking as a member of twelve years

of the Southern Pacific Hospital service—that it represents the ideal system in medicine; that is, the injured or sick man and his interests, and the man who employs him and his interests, and the doctor who takes care of him and his interests, are absolutely the same—that the patient shall be restored to his fullest working capacity at the earliest possible moment. Whether or not you can produce that ideal system of things for the whole community of inadequately paid workers, or whether it would be wise to produce it if you could, is another question. This plan had its beginning in this part of the country when, as pioneers, bands of men were sent out here to build railroads and telegraph lines, operate mines or mills, and the companies sending them taxed the men to provide them with otherwise uncertain care. The system is not confined to the University Infirmary in Berkeley and the Southern Pacific Hospital, but is operated in organizations. Some pay all the expenses; some tax their people for part of it. It is working in many organizations in San Francisco.

I am not working for the adoption of the plan outlined in Dr. Whitney's paper—the scheme of cooperative medicine—for I am not sure that obligatory systems are best for the American people. I do say that it would be the best way of administering medical care if it could always be ideally operated, that is, through a body of picked men, as the army picks its medical men, promoting them not entirely by seniority, but providing also for periodic examination for promotion. This would introduce more paternalism and do away with the need of half the medical profession. In commerce this is known as combination in restraint of trade. Medical insurance exists in Europe, not because Europeans are a more enlightened people than we are. It exists in unenlightened Austria, in bureaucracy ridden Germany and Russia, because the truly horrible conditions that hold among the people forced such measure, to prevent revolution.

Do we need the protection of this sort of thing? That is the question you should think of before you become parties to such legislation, and having accepted the principles of sickness insurance you must see all its consequences—of enforced physical examination, the need of a maternity clause, of invalidity insurance, of old age pension and protection against unemployment, and provide for them, for the bill might easily leave undone much that will need adjustment more than ever, and it may easily create new fields of discontent more serious than any now existing.

Dr. J. L. Whitney, closing: If I seemed to be an advocate of private insurance or any other specific plan it was without my intention. I meant only to show that the insurance method in some form was the logical way of attaining the two great changes in medical practice which seem inevitable: greater cooperation among doctors, and payment by the year. Sometimes it is more feasible to use means which are ready at hand, even though not ideal, than to create an elaborate machinery anew. If insurance methods are to be extended to the middle classes it will probably be by means of private enterprise. If the service offered is not honest and of the best quality the plan will fail as it has hitherto; the success of insurance medicine will depend entirely on its ability to furnish better care than can be had by other means. As to the profit in private insurance, this will have to be largely cut out to meet the competition of a state fund. If the latter can eliminate wasteful expense it will automatically possess itself of the whole field.

I drew rather a fanciful picture of a highly organized system, instead of pointing out the various steps in its development. Of course any practical scheme would begin by utilizing present facilities

to a very large extent, that is the employment of the general practitioner on a fee basis, but we can get a good start toward organization by insisting on thoroughness of inspection and consultation. I am convinced that the system once started will develop of itself.

There is no reason why free choice of physicians should not be combined with the method of payment by insurance. In fact, there is every reason to suppose that either a private carrier or a state fund would give a person a very considerable latitude in choosing from a number of properly accredited physicians. This would not alter the insurance method in principle. But it is worth emphasizing that even if medical service were rigidly prescribed the patient would still have the choice of utilizing the free service, or of paying for a doctor of his own choosing as he now does. We have not free choice of teachers in the public schools, but anyone who wishes may send his children to a private school. I think this matter of free choice of physicians is very likely to be given much more emphasis than it deserves. As far as I am aware the employees of the Southern Pacific Company, for example, make no complaint because they have not an unlimited choice of physicians. If the Company furnishes first-class medical service, I think it will be utilized in practically all cases without complaint.

I do not fear the dependence on insurance companies or state fund which troubles Dr. Rosenstirn. I doubt if the Southern Pacific surgeons feel that their liberty is restricted because they are in the employ of a commercial organization. On the other hand, it is high time that the physician in general should be made responsible to someone—a medical superior of course. Dr. Gibbons will testify that the necessity is becoming urgent of supervising the work of the general practitioner under the compensation act, not for the sake of business efficiency, but to get good medical service.

SHOULD THE MEDICAL PROFESSION PLEAD IN FAVOR OF THE PROPOSED HEALTH INSURANCE BILL?*

By JOHN H. GRAVES, M. D., San Francisco.

Before the medical profession can intelligently support any proposition for Health Insurance, it will be necessary first for the proponents of the measure to agree among themselves as to the character of the law and to present clearly their conclusions on the following points:

1. Is any law of this character necessary to the welfare of the people of the State of California?

2. Will the measure be so framed that those who come under the provisions of the act be entirely free to choose their own medical attendants, or will they be compelled, as they now are under the Workmen's Compensation Act, to accept the services of cut-rate physicians, selected by insurance companies?

3. Are the people who are supposed to be benefited by this law desirous of the passage of such a measure?

4. Will the present high standard of medical service rendered to the people of the state be lowered by such a law as it has admittedly been lowered by the passing of the Workmen's Compensation Act; and what effect will the proposed measure have on the doctor's income?

5. Can the proponents of the measure after

* Read before the San Francisco County Medical Society, September 12, 1916.

they have agreed among themselves, if that be possible, give any assurance that the measure, as presented to the Legislature, will be accepted and made into law without amendments, which would entirely change any or all of the provisions?

I am quoting the opinion and authority of men who have lived among California conditions and studied California subjects from every angle and who have investigated status of life in Europe and Asia and the attempts of the governments of those countries to solve their weighty problems of overbearing poverty. No European sociologist is as competent to judge what is best for California as the man who has lived in and intelligently studied the welfare of the state.

At this point it may be interesting to state that a number of months ago the Commonwealth Club of this city, following its usual custom of investigating carefully and thoroughly legislative measures of importance to the people of this state, appointed a section, I should judge of some twenty-five or thirty members, to study this proposition. In this section are to be found manufacturers, capitalists, philanthropists, representatives of organized labor and members of the medical profession. Having attended a number of conferences of this section, the writer of this paper assures you that not only is there a wide divergence of opinion among the members of this section, who have for some months been studying this subject, but that nearly every proponent of this measure who appears before this section has either original or borrowed ideas different from those previously proposed.

Now to comment on the first proposition. Is any law of this character necessary to the welfare of the people of the State of California?

Those of you who have become interested in this problem know that Germany, Austro-Hungary, Great Britain, Holland, Russia and Roumania have some form of compulsory insurance. While there may be many things made in Germany which are good for some Germans and there may be some things made in Roumania which are good for many Roumanians, it does not necessarily follow that because these laws are tolerated by European people, or have been found necessary to their welfare, that the same law is necessary to the people of California.

This is not a statistical paper, but by way of illustrating the difference between the conditions in Europe and those in California, it was interesting to the writer to read in one of the automobile journals before the great war that there were 90,000 automobiles in the German Empire with its seventy million people. Last week in California there were 208,000 automobiles, including Fords, and we have about three million population. This means the people of Germany have only one machine for every seven hundred inhabitants, and we have one for every fifteen inhabitants, allowing one male voter for every five people leaves one auto to every three male voters. And yet they do not all get to the polls to vote on constitutional amendments such as will

be necessary before the Health Insurance Law can become a possibility in California.

Is it not true that compulsory health insurance may be a good thing for a people who could afford only one auto to every seven hundred inhabitants and not be necessary to the welfare of the people possessing one to every three voters? One of the founders of the American Government said that the best government was the one that governed the least, and if we are to judge by the countless thousands who have left their countries to find an abiding place in the United States, we may safely assume that many of them believe that the system under which we are operating is not wholly bad. Industrially, politically, socially and financially conditions are so different in America, especially in California, from those existing in Europe, that it is fair to believe that we can afford to be originators instead of mere imitators.

Members of the medical profession of the State of California, many of whom have been born and raised within the confines of the State, are anxious to lend their efforts to relieve human misery and suffering in whatever form, but as students of medicine they have learned before beginning treatment to ascertain positively the nature of the disease and to be very careful in selecting the remedy for its treatment.

2. Will the measure be so framed that those who come under the provisions of the act be entirely free to choose their own medical attendants, or will they be compelled, as they now are under the Workmen's Compensation Act, to accept the services of cut-rate physicians, selected by insurance companies, state and private?

This is a question on which there appears to be a great difference of opinion. For instance, at the meeting of this section of the Commonwealth Club on Social Insurance, May 5th, Dr. Bine said that he thought that a limited choice might be possible, but that the patient is not competent to judge what physician is best for him. Others have suggested the so-called "full time" or "full pay" method (this does not mean full fees) by which certain physicians receiving salaries should attend to all of those coming under the provisions of the act.

Mr. Hymen, in accord with Dr. Whitney's ideas, as expressed in his paper this evening, at the meeting of September 1st, thought that all insurance companies should be allowed to write insurance. The medical profession should know by this time that if private casualty companies can exert a sufficient amount of influence to permit them to write this type of insurance there will be no such thing as free choice of physicians.

Dr. Rubinow has said that the whole spirit of the proposed law necessarily would be unalterably opposed to the writing of insurance by any private casualty company for profit and that the benefits to be derived from this law would be largely overcome if this were permitted. When such a powerful political force as Organized Labor failed utterly to force into the Workmen's Compensation Act a clause permitting the free choice of physi-

cians, it appears to the writer highly improbable that any health insurance measure will be passed through the Legislature that will permit the free choice of physicians.

3. Are the people who are supposed to be benefited by this law desirous of the passage of such a measure?

The best information that I have been able to obtain leads me to believe that they are not only not in favor of, but opposed to, any form of compulsory insurance. Mr. Mullen, editor of a labor publication, whose position entitles him to speak for Organized Labor, on June 2nd, 1916, addressed the section on Social insurance on the attitude of the workmen to the compulsory insurance act. He read a paper on the objections of workmen to Social Insurance, in which he stated that if one-half the energy devoted by social workers in attempts to compel workmen to do what they think is good for the workmen, were directed instead toward the increase in wages then the question of relief of poverty would not be urgent. "The American workman," he said, "does not believe that his freedom of action should be taken away to provide for the insignificant few who have not been able to care for themselves. Further, the workman has no desire to give up his independence even though, from a material standpoint, he may profit thereby." To quote further from Mr. Mullen's paper, he said, "Let the Government once embark upon compulsion and there is no limit to meddling. It is true," he said, "that there are a few individuals, mostly socialists, in the labor movement who believe in paternalism in government, but the vast army of wage earners prefer to regulate their own affairs." He also instanced the address of Samuel Gompers before a committee in Congress in April, opposing the Health Insurance bill and quoted also from the address by Hugh Frayne of the American Federation of Labor, opposing the adoption of a Health Insurance law. The New York State Federation of Labor vigorously protested the adoption of the sickness insurance bill proposed in that State and which, I might add, was defeated. He concluded his paper by calling attention to the fact that men who were below the standard of health would be refused employment as the employer would feel that he would be taxed to support the man in event of sickness. Various other objections, too numerous to mention, were included in this paper.

4. Will the present high standard of medical service rendered to the people of the State be lowered by such a law, as it has admittedly been lowered by the passing of the Workmen's Compensation Act; and what effect will the proposed measure have on the doctor's income?

The writer of this paper believes that it is high time that the medical profession of the State of California, instead of spending their efforts ferreting out examples of incompetency of the members to spread before the eyes of the laity, should call attention to the fact that the people of California receive at the present time from the medical profession as a whole, the highest grade of medical

and surgical service received by any people in any commonwealth of the world. This is not a statistical paper, as stated before, but the investigations of the writer of this paper at the present time compel this conclusion.

Perhaps one should apologize for mentioning such a sordid thing as the doctor's income, which Dr. Rubinow states should never rise above a bare living, but regarding the effect of the proposed law upon the incomes of the medical profession, the writer has recently been informed by a San Francisco physician, who resided for some time in the home of a hard-working physician in Germany, that this gentleman, under this system, received fifty pfennigs a visit,—about twelve and a half cents, but as the physicians went out on what was practically a strike and with great effort secured improvement in the law, conditions were improved to such an extent that they now receive twenty-five to thirty-five cents per visit. Efficient Germany with its marvelous industries and wonderful organization is able to pay her physicians this fee. What Russian and Roumanian physicians receive under compulsory insurance laws, not being a microscopist, I have not endeavored to ascertain.

A few days ago in one of the Federal Courts of this city, fees to the extent of \$269,000.00 were awarded some lawyers for services rendered a sick corporation. The judge, in awarding the fees, remarked that he considered them very reasonable. How long will it be, after the passage of a few more measures reducing medical fees, before all the active and alert take up the legal profession and leave only the dolts and dreamers to worship at the shrine of Hippocrates?

5. Can the proponents of the measure after they have agreed among themselves, if that be possible, give any assurance that the measure, as presented to the Legislature, will be accepted and made into law without amendments which would entirely change any or all of the provisions?

It has been estimated that about 2% of the practise of the State comes under the Workmen's Compensation law. It is estimated that over 50% of the medical work of the state would come under a health insurance law. A committee of the Los Angeles Medical Society last spring issued a statement that the private casualty companies writing insurance under the Workmen's Compensation Act, had sent out of California somewhere between two and three million dollars in profits to the stockholders on the fraction of insurance written by them. If this was their profit, operating under a bill which gave them less than two per cent., it gives some idea of what the profits would be if they controlled over fifty per cent. of the practice of the state.

Now as practical men, and doctors can sometimes be practical, do you not know that any measure presented to the Legislature that does not permit these companies to write this type of insurance will be most vigorously opposed by them? With such enormous profits at stake they can afford to spend a vast sum to educate legislators who do not see the light. The writer believes that the Legis-

lature, which numbers among its members christian science practitioners, osteopaths and adherents of every so-called school of medicine, will amend any bill on health insurance presented for its consideration to such an extent that the framers of the measure would be unable to recognize it as the one proposed by them.

Lest we forget, remember that the last Legislature passed a drugless physicians' bill, permitting any one, without regard to educational qualifications, to practise the healing art; the Governor vetoed the bill.

To ask the medical profession to favor the proposed law at the present time is like placing a sealed package on the table and asking you if you will accept and keep its contents. The package may contain a magic wand that will solve all of the vexatious problems of life and bring you happiness or prosperity—or it may contain an infernal machine that will blow you to Kingdom Come.

The writer's idea is that these gentlemen who are so much in favor of the proposition should be asked to remove the sealed package to some safe place at a reasonable distance, open it carefully and expose its contents to our view. If it looks good we can accept it, but having accepted one such package in the Workmen's Compensation Law, let us insist that this one be kept out of the statutes until ample time has been given us to contemplate and understand whether it will do something for us or something to us. And finally, let me draw your attention to the fact that this society has appointed a committee to study the subject. Its meetings will be an open forum and you are earnestly requested to attend its meetings and assist in some form of practical organization that will give a united profession power and influence to demand fair and reasonable treatment under any measure which may be enacted into law.

Discussion.

Dr. Rubinow: Dr. Graves began his very interesting paper with a series of five questions, and perhaps an effort to reply to these questions is more important than carping criticism of various statements made in the paper.

1. Is a system of Health Insurance necessary for the State of California?

The case for health insurance is not limited to conditions in California. It is based upon general conditions in any industrial community where the problems of wage labor exist. So much may be said in reply that perhaps the best method is to refer to the enormous amount of literature published on the subject that is so rapidly growing. Perhaps I may be excused by referring to my own book on "Standards of Health Insurance" and to other numerous pamphlets. All arguments in favor of health insurance must necessarily reduce themselves to the fact that the wage worker who is ill is unable to work, has a very serious economic problem to face, and is frequently unaided, especially because sickness means not only interruption of income but causes unusual unexpected expenditures.

But is there anything specific in the California conditions of wage-workers that makes health insurance unnecessary though the need of it has been found to exist in most industrial countries? It is not necessary to deny that wages are higher in California than in Germany, or even in most

of the United States. But after all, what good is the higher level of men's wages to his widow, or even to his wife, when he is sick? Higher wages mean, and should mean, higher standards of living, but seldom mean a sufficient surplus to enable one to meet the crisis caused by sickness. Besides the high wages of California are sometimes grossly exaggerated by enthusiastic Californians. Official statistics of your own state indicate that in manufactures 60% of the male workers get less than \$18.00 a week; 30% get even less than \$14.00 a week. Of women employed in manufacturing establishments, 90% get less than \$14.00 and 65% get less than \$10.00 a week. In other occupations such as mercantile establishments, laundries, restaurants, etc., 65% of the women get less than \$10.00 a week and 40% get less than \$9.00 a week.

Organized labor in California is justly proud of its achievements in improving conditions of labor, but even among members of labor organizations, according to statistics compiled from official California sources, 68% get less than \$25.00 a week and 30% get less than \$20.00 a week.

How far this weekly income is cut into by prolonged periods of unemployment is a matter of general observation. I submit that one does not need to be a professional statistician to recognize that persons of such wage incomes are not in a position either to stand the loss of wages during a prolonged illness nor to pay the ordinary fees of private practice.

The medical profession may be justly proud of having established in California a very fair standard of remuneration, but for this very reason a statement made by a prominent physician that "no good physician can afford to practise among the wage workers for what the wage-workers can afford to pay him," at present is nowhere as true as in California. The sooner the medical profession recognizes this obvious fact the better.

There are four ways open to the majority of wage-workers in meeting the problem of the cost of medical aid.

a. He can sometimes obtain free medical aid through a charitable channel, and thus indirectly exploit the medical profession, which at present receives no remuneration for this charitable work.

b. He can incur a large medical bill and forget to pay it, thus increasing the doctor's percentage of bad collections.

c. He can assume heavy obligations and then struggle for years in an honest effort to meet them, and the commission is in a position to quote hundreds of such cases among the working men and women of California where bills of \$100 to \$300 are being met by persons whose average earnings are \$15 and \$10 a week or lower.

d. He can go without medical aid, and it is only too well known what a large proportion of illness among wage-workers goes untreated for such reasons at present.

The question is whether the medical professions are satisfied that these four alternatives, and only these, should be put before the majority of our wage-workers. Does the medical profession think it satisfactory from the point of view of the health of the individual patient or public health? And to look at it from the opposite point of view is that a situation which is most advantageous to the medical profession even in a financial way. Where the entire cost of aid to our wage-workers is being met at a tremendous sacrifice by a few individuals with a hyper-fine sense of honesty while the majority are forced to become either applicants for charity on deathbeds or invalids for lack of medical care, is not the medical profession ready to admit that the fifth method, the method of insurance, is preferable, through which method the wage-workers collectively, and with the assistance of industries and the state are enabled to purchase the

services for which individually they cannot pay? Almost all of Europe has proven the feasibility of this insurance method. Is it scientific to reject this just because it is an European and not an American invention? Is the system to be condemned for no better reason than even Russia and Roumania have learned to use it? There are now no geographical limitations to progress of science, either natural or social. We use freely the fruits of European progress in medical science, even in military science. Why not learn something of their social methods just as they are learning of ours?

Perhaps I may remind Dr. Graves that compensation has also been imported from Europe and that the same arguments were used five years ago about compensation that are being used against health insurance now, and in my mind only adds to the levity of the situation that even the arguments against those methods have been imported from Europe, the only difference being that those arguments are sometimes over thirty years old. Of course I recognize the tremendous force of the one novel American argument that Dr. Graves has put forth against the health insurance agitation and that is the significant fact that "there are in California 200,000 automobiles, including Fords." The peculiar result of this situation is that while an automobile may add a good deal to the pleasure of the owner, it only adds to the hazard and disgust of the other members of the community, so perhaps it should be used, if anything, as an argument in favor of accident insurance.

In any case I am ready to agree on the spot to any amendment to a health insurance act which would exclude from its advantages, as well as its obligations, any owner of an automobile.

2. Putting Dr. Graves' second question in a somewhat more concise form, will the beneficiaries of the system be given entire freedom of choice of physicians, or will they be forced to accept service of cut-rate physicians selected by insurance companies? The three months of my work in California have been entirely wasted and twenty-five public addresses have been made to no purpose if I can still, at this stage, be confronted with the charge that I propose to place the administration of this social reform in the hands of private insurance companies. I have stated repeatedly that the business of health insurance must be left in the hands of people who contribute to it and derive benefit from it; that the only rational plan of organization is for local mutual association administered jointly by employer and employee under strict state supervision.

Whatever the insured community is able to pay for medical aid the physician should receive, and the community should not be asked to pay more than what the physician considers a fair remuneration for his work. There is no place for an intermediary deriving profit from the system by charging the consumers more than they ought to pay and paying to the workers less than they ought to get.

I am not quite certain as to what Doctor Graves means by "entire freedom" of choice. No one except the very richest can claim such entire freedom of choice at present. The common people can only choose the physician whom they can afford to pay, and notwithstanding any official fee schedules, I have learned enough about the local situation to know that there is a reasonable range of fluctuation in rates actually charged. Conditions of payment for medical services will have to be determined by agreement between the insurance carriers and the medical profession through some form of collective bargaining. In that sense it will have to be in the nature of contract practise. By which I mean to say that the situation is altogether inconceivable under which

the cost of the service under any organized system of health insurance would be determined by individual bargaining at the time, and the services rendered on a different basis every day. Whatever those conditions may be, undoubtedly some physician will be found whose clientele is of such a nature that they will not care to accept the work under a health insurance plan. After all, all medical science and all medical art are not necessarily limited to those who practise among the wealthy. But as physicians willing to accept terms agreed upon, provided they come up to a reasonable standard, again to be agreed upon by the medical profession itself, there should be, in my opinion, freedom of choice of physicians. That at least is the consensus of opinion of the most thorough European students of the problem, and while I cannot speak officially at this time for any governmental commission—that in my opinion will be the form of organization that will eventually develop. As to what the terms should be is very largely up to the medical profession itself, provided they agree to the general principles of health insurance, and make an effort to arrive at an agreement among themselves as to how medical aid shall be organized.

I am not certain as to what Dr. Graves has in mind when referring to "cut-rate physicians." The medical work for a million wage-workers and possibly for another million of their dependents cannot be done by a few, and one-half of the medical profession cannot all be "cut-rate physicians." But if cut-rating is an evil, surely every physician who has his eyes open must recognize the fact that all the opportunity for individual competition on a base of a cut price for services exists now, and that these opportunities must be greater when the medical work is paid for in an individual confidential transaction as against the system under which the terms for payment of services are publicly known.

3. Are the people who are supposed to be benefited by this law desirous of such a measure?

In an effort to give a negative answer Dr. Graves quotes from isolated expressions of opinion of representatives of organized labor. Of course even at this stage of the campaign for health insurance, wage-workers have not shown any desire for the measure, but that in the opinion of a physician should not be a decisive argument against it. After all, patients feel the need of efficient remedies, but it is to the doctor to determine which remedy will be efficient. That rule may hold true of social ills as well as of bodily ills. The fact that children cry for castoria may not be a convincing argument that castoria is always indicated. Patients do not constantly clamor for quinine, arsenic or mercury. Labor in the past raised objections to compensation, to minimum wage, to regulation of hours. Three months ago that would have been the only reply that I could have conscientiously made, but in the present social insurance campaign things are moving very rapidly and three months is a very long stretch of time. The views quoted by the doctor date back three or four months. Since then, however, three state federations of labor in Wisconsin, New Jersey and Massachusetts endorsed health insurance in their conventions, and in addition, four national labor organizations, to-wit:

International Union of Steam and Operating Engineers;
Glove Workers' International Union, Chicago;
International Typographical Union;
United Hebrew Trades of New York City.

Unless I am very much mistaken it will not be very long before labor of California, organized or otherwise, will see the wisdom of a similar step.

4-a. Is there danger that the present high standard of medical service will be lowered by a health insurance law?

Surely it is the opinion of the advocates of health insurance that the exact contrary will be the result. The whole campaign for health insurance derives most of its support from the expectations of the improvement of public health, which it must result in. The United States Public Health Service and the President of the American Medical Association would not have come out as definitely as they have in favor of health insurance if it had not been for the evident necessity for it from the point of view of improvement of public health. I cannot conceive how an organization resulting in giving medical aid in all its branches, including specialists, hospitals, nursing, etc., could result in anything but an improvement of public health.

The quality of medical service rendered to the people of California depends upon the technical training and ethical standing of the medical profession of California. The medical work to be done under a health insurance law is of too large a volume to be monopolized either by a few best or a few worst physicians. I shall not insult the medical profession by assuming that the quality of its work will depend upon the form or amount of payment for services. If such a dependence existed what would our opinion of the quality of free medical aid given in hospitals and dispensaries have to be?

4-b. What effect will the proposed measure have on the doctor's income?

Let us assume that that is the distinct point of view from which the medical profession wants to approach the problem of health insurance. (Personally I do not think it is.) Evidently the effect will depend upon the rate at which medical services are paid. No health insurance law should assume to regulate that in a legislative way. Some of you may be enthusiasts of minimum wage legislation, but I have never met any such enthusiast who would be willing to insist that the medical profession shall need the protection that may be obtained from the minimum wage law.

The rate of pay for medical service must be agreed upon by the insurance carriers and the medical profession, and I for one have the sincerest hope that the medical profession will see its way to apply to the method of collective bargaining rather than individual competition.

Naturally, at this time, before any bill has even been framed, it would be idle to discuss the details of the rate of payment. But that much is certain—a health insurance law increasing the amount of medical work done, which at present remains undone, because people who have no means do not apply to the physician except as a last emergency. Several investigations in this country have established the fact that anywhere from 30% to 50% of sickness among wage-workers remains without medical care, and the enormous increase in the demand for medical aid in Great Britain as a result of the health insurance act is a matter of historic record. Health insurance will do away with a very large proportion of the charitable work done at present, at least in so far as employed wage-earners are concerned. Health insurance will do away with the evil of uncollectible bills as far as insured persons are concerned.

It seems obvious, therefore, that the total income of the medical profession must increase even though the work among insured persons will probably be done at a lower rate per unit of service than is being done at present. After all if the California physicians really deserve the reputation they have for being better and more progressive business men than their colleagues in the east, they want to understand that in the final analysis it is the total income and not the high rate per unit of service obtainable or payable that matters.

5. The last question that Doctor Graves asks is what we New Yorkers would call a "clincher." Dr. Graves wants us to give assurance that the measure as presented to the legislature "will be accepted and made into law without amendments, which would entirely change any or all of the provisions."

May I respectfully ask what would become of all the legislative reforms, what would become of the advocacy of any necessary changes if guarantee like that would be demanded of the disinterested public men and women working for reform. The state of California is a sovereign state. It has always assumed a republican form of government; the people will have the sort of legislation which they desire and have sense enough to insist upon. No framer of legislative project has either a legal or a moral right to insist upon the inviolability of his plan to its minutest details. Health insurance is a measure which affects the medical profession directly, but it is also a measure of such tremendous importance for our public health that it is the duty of the medical profession to watch carefully such a proposal throughout its legislative history, both from its own point of view and from the point of view of public interest. What right has the profession then to remain inert and be willing to accept somebody else's guarantee that dishonest effort will not be made to sidetrack the real purposes of the law? Here you are, six thousand of you, all men and women of education and influence within the limits of your communities. Put the combined enthusiasm and energy of those six thousand men and women together and the force thus gathered should be sufficiently great to prevent anything from destroying and injuring the real social purposes of the law in its passing.

Dr. Asa W. Collins: Dr. Graves stated that the quality of the surgical services rendered workmen under the compensation act were inferior to the surgical services rendered prior to the passage of this act. I would like to ask Dr. Graves his authority for that statement.

Dr. W. C. Voorsanger: I want to ask Dr. Graves this question: If we do not have health insurance, how does he propose to take care of the vast number—not poor nor rich, but middle classes—suffering from chronic diseases, such as syphilis, tuberculosis, or carcinoma; particularly, as so often happens, when these affect the wage-earner. He can not pay to go to a private institution. Very often he has a little more means than will permit him to get into a public institution, and again, often the public institutions are full and cannot take him.

As to compensation insurance, if there are any cut rates, as far as the insurance companies are concerned, those rates have not been cut by them but by doctors themselves who are members of this Society.

Dr. B. A. Mardis: I would like to ask Dr. Graves if he knows what the attitude of the medical profession is in the countries that have adopted health insurance laws.

I would also like to ask Dr. Graves how he knows that the people in California receive the best medical service in the world.

Dr. A. S. Keenan: Just to keep the subject bubbling, it would interest me to know why we should make a radical change in the present condition. I am inclined to agree with Dr. Graves' paper. The large middle class—are they getting such poor attention? It is not always necessary that every patient should get the very best doctor. In the legal profession you do not need the best lawyer when you want to get a divorce. It is not necessary to have the very best surgeon or physician for an ordinary complaint. You get a man you can afford to pay, and his knowledge and experience is sufficient to carry you on.

We are now being underpaid, due to the insurance companies. Working men have increased their salaries in the last 15 years from 40% to 60% but have not increased their efficiency, while the medical men have increased their efficiency but have decreased their incomes. The doctor of to-day is a great deal better than the doctor of 20 years ago. We have increased our efficiency, work more hours, and get less for it. Along comes the compensation act, and this proposed health insurance for the companies to manipulate the members of the society with. The manager of the insurance company will take down his phone and call and ask one of them to go to some hospital to see my patient, and he does this at cut rates without saying a word to me about it. Medical ethics are now destroyed by the men who are supposed to uphold them. The medical profession will become hired men, working for small salaries under the insurance companies.

The poor are getting the best of service now, and the great middle class is getting about as much as they need. If they want more, they can go out and call in a consultant.

Dr. Graves, closing: I want to state first that I am inclined to believe that the chief object of writing my feeble paper has been accomplished, for it was this: to stimulate members of the medical profession, and especially those who are actually practising medicine—not men who are interested in other things, all kinds of governmental and social problems—to take an active interest in this important thing. If you do not take care of yourselves you will be hindmost. If I have stimulated a little interest among you busy men, I have accomplished something worth while, I hope.

Dr. Mardis asked me if I knew what the attitude of the profession in Europe had been toward health insurance. I have understood that the German physicians objected most strenuously to it, and I have read such statements. In England, I happened to be with Sir William McEwen the day that the British Parliament passed this measure. He was visibly affected by the news, and he said: "That means the death of all the ideals of British medicine."

You ask me how I know that the people of California receive the best medical care. I have been studying that problem of late and was stimulated to do so by the statement of Dr. John B. Murphy, who said the last time he was in California, that Minnesota, next to California, gave to its people the best medical and surgical service of any state or commonwealth in the world. Next day I asked him if I understood aright, and he said I had, that he had got it in studying statistics for his yearbook.

Dr. Rubinow said that the profession of California was better paid than anywhere in the world. That is why the California physician goes to Vienna, to Berlin, Paris, London, to the Mayos and Johns Hopkins, and makes himself a better man by doing it. You will find these men scattered all over the state of California, and you older men must be aware of the fact that much better work is being done.

Dr. Collins wanted to know about my statement that the work done under compensation is not as good as prior to that law. Dr. Gibbons made that statement at the Commonwealth Club.

Dr. Morton R. Gibbons: I made the statement that the average surgical work in California since the workmen's compensation act went into effect had been less satisfactory than before, in my opinion. My explanation was that whereas before the law went into effect the major part of that surgery was done by county hospitals, and the service was from average to excellent, now, be-

cause of the provisions of the law, it had fallen into the hands of individuals who do that work simply because there is a fee in it, and have not the requisite skill nor experience.

Dr. John Graves: Dr. Voorsanger asked a question that is certainly a very vital one. What are we going to do with the people who have cancer, tuberculosis and those chronic wasting diseases? That is a great problem, and I do not see that health insurance entirely solves it. First of all, the man must have a job and be at work before he comes under the provisions of the act. You will always have the sick poor with you. My personal idea is that as we have county hospitals that care for the sick with ordinary diseases, so we will have to have county hospitals or state sanatoria where they can be sent under our present system.

Dr. Rubinow's answer to my first question, though of considerable length, is not very satisfying. He says the case of health insurance is not limited to conditions in California. Certainly it is health insurance for this state that we are considering. Quotation of wages paid in our factories are not of much force as we are not a manufacturing community, but having paid some attention to the subject, I will say that it would be most amusing to observe the efforts of any one endeavoring to employ a considerable number of individuals in this community at the wages he has quoted. One of the leaders of labor in this state, in a recent address, said: "Throughout our state organized as well as unorganized workers have made substantial gains; and while the general wave of prosperity has not reached all lines of industry, taken as a whole, labor has enjoyed a most prosperous year. Indications seem to point to another year of progress and prosperity."

If Dr. Rubinow is going to exclude every owner of an automobile in California from the provisions of this act, a good many wage-earners will escape the health insurance law.

Dr. Rubinow has mentioned before the case of a girl earning \$8 a week who was charged a surgeon's fee of \$300. I have asked over 40 San Francisco surgeons what their fee under such circumstances would be and with a single exception they would not accept any fee at all. The one exception said his fee would be nominal. Would it not be as reasonable to condemn religion for the acts of an erring clergyman as to judge the profession by the act of a medical extortionist? The truth of the matter is that any decent man or woman in California, regardless of their financial condition, can obtain prompt efficient medical service from members of the medical profession for what they can reasonably afford to pay. On many a doctor's desk is some little gift, an offering from some grateful soul who could not afford to give more, that is prized as highly by him as are the more substantial offerings of those possessed of abundance. Rob everything worth while of all its sentiment and it no longer remains worth while. You may call this individual instead of collective bargaining, but it is not entirely unsatisfactory.

Dr. Rubinow states that whatever the insured is able to pay the physician should receive. This appears to be quite at variance with his previous statement, which was: That whenever a doctor makes anything beyond a living out of his profession, that it ceases to become a profession and becomes a business. Or with his other assertion: That the greatest misfortune to medicine has been the fact that a few men in this country have accumulated fortunes from their practise.

His opposition to casualty companies writing this type of business for profit is gratifying, for we know that if such were permitted there would

be no freedom on the part of the insured to select his medical attendance. But we don't know that these corporations will not be permitted to engage in this business. They have certainly succeeded in remaining in the field to write compensation insurance.

And finally, the attitude seems to be that the desires of the people that are supposed to be benefited by this act are of no importance, because they are not competent to judge. If, as the doctor has stated, this is a republican form of government where the people will have the kind of legislation they desire and have sense enough to insist upon, is it not reasonable that we should at least give due weight and consideration to their opinions?

THE PROPOSED SOCIAL HEALTH INSURANCE ACT.

By DONALD M. GEDGE, San Francisco.

On Tuesday, September 12th, 1916, personally appeared before the County Medical Society of San Francisco, Dr. J. L. Whitney, who delivered a paper on "Cooperative Medicine to Social Insurance," and Dr. J. M. Rubinow, Consulting Actuary to the Social Insurance Commission of California, who read a paper on "The Judicious Attitude Toward Health Insurance."

Such a feast of theoretical and fantastical viands has seldom been offered to the medical fraternity of California; and, were it not for the evident earnestness of those who delivered it, indignation would certainly have added to the violent mental indigestion that overwhelmed the doctors present. To be sure we appreciate the paternal and eleemosynary fantasy that is now sweeping over the land. Inconsistency and absurd theories have no longer found a place in European fields, where the unfortunate people are engaged in more portentous things; so the bacillus prodigeosis of socialistic vagaries has been transported to America, where it, apparently, is finding a pabulum upon which to glut its voracious appetite. The probabilities and possibilities of a social insurance plan against sickness, etc., as outlined by Dr. Whitney in his able dissertation, are quite admissible; but the *raison d'être* is another question. Exploitation of academic questions by an academician is always of interest and duly convincing, provided an admissible syllogism obtains with a rational premise. In this instance we are not willing to admit Dr. Whitney established any such tenable position.

The argument advanced by Dr. Rubinow was energetic and utilitarian, but wholly without weight from the medical man's standpoint. This is not an epoch of maudlin sympathy, but of practical rationalism. It is not a field for Utopian dreams or practices that shall make of the medical man a veritable tatterdemalion, but one of endeavor, application and reward. Already the burden of life has fallen upon the vast concourse of humans, composing the so-called middle class, while mis-conceived sympathies are being extravagantly squandered upon the undeserving, wasteful and improvident. Herein lies the productive field for the Socialist, the reformer and so-called social worker. While we admit the successful application of the principles of Social Health Insurance

obtaining in certain overcrowded countries of Europe, we must also admit that in these countries the medical man has been commercially and financially placed *hors de combat*. His position as a scientist and learned member of the community has been circumscribed and restricted by legislation, and his remuneration reduced to the lowest possible stipend, consistent with the dignity and learning of his profession. To say that the income, generally speaking, of British medicos has been augmented by such legislation as has occurred in England, is a senseless argument. Many were mulcted by this law, and the reduction of the fees formerly obtaining does not warrant any supposition that adequate or really good service obtains. To say that either the medical men of England, Germany or Austria are jubilant over burdens they bear, is an absurdity too gross for contemplation. Not one of them would willingly assume them, despite the word-pictures of social workers, who are borne away on the tides of enthusiastic devotion to a cause rarely worthy of real sympathy. How any one of experience can contrast the conditions of over-crowded Europe with free, liberty-loving, broad, prosperous America, and draw any worthy picture calling for the practical pauperization of the medical profession of this country, is difficult to comprehend and is unworthy of consideration.

If we regard only the State of California, with a population almost less than the city of Chicago, with its millions of broad, unoccupied acres of rich land, its farmers and agriculturists crying for labor, its wage scale the highest in the land, its homes open for hundreds of domestics, at present unobtainable; we see, at once, this demand for Social Health Insurance is unwarranted and has no place here. Practically this condition is universal. Poverty, existing in large centers is rarely worthy of sympathy; and maudlin fanatics often make capital out of conditions that would easily be adjusted if practical charity, unobtrusive and without ostentation could be placed in control. Strange, is it not, that nearly all of the so-called social uplifters, especially of the male persuasion, should be of foreign birth, who find their chief occupation centered in administering to the delinquencies of our foreign population? So, is it not true, that most of the poverty, so-called, and squalor and unhygienic conditions, are found where certain commercially active foreigners congregate and ply their vocations? People who are accustomed to deprivation and endowed with super-frugality, cry incessantly for charity, if it availeth some profit.

In this open west country these conditions and these people do not predominate. What little poverty was observed by me during many years' practice, in the poorer sections of San Francisco, was almost invariably due to improvidence, intemperance, immorality, and utter disregard for ordinary industry. What little of real worthy poverty existed was more than provided for by the unreserved and willing attention of generous medical men and clinics, as far as the need for medical

attention was concerned. It is admitted that the poor, the real deserving poor, have the very best medical aid. Why then reduce to vassalage the high minded, richly qualified and generous profession of medicine? The middle class are liberally compensated for their labors, and are more than liberally dealt with by the medical fraternity as a class. The spirit of independence, the right to purchase, and the privilege of paying—these are sentiments dear to the heart of every upright manly American citizen, and will not be easily taken from him, as such an act, as proposed for the establishment of Social Health Insurance would bring about.

While the action of the present medical law is not conducive to the elevation of the medical man, the standard of medical education has been constantly elevated in the State; but such an act as the one proposed, would have no tendency to stimulate the mental activities of the profession, but would put a premium upon the corrupt, incompetent, and designing political seat-warmer; for ability could not prevail in a contest with political influence and graft. The doctors, irrespective of professional attainment, who could swing the greatest amount of influence and votes would occupy the desirable positions *ad infinitum*. The *hoi polloi* would get just what such an act would warrant—inefficient and low grade service. It is generally conceded that the self-respecting labor unions are opposed to such an act. They rightly regard it as un-American and an usurpation of their privileges and inherent rights. They object, seriously, to enforced paternalism, and reject any proposition curtailing their rights to the selection of a medical adviser.

Who among us is willing to surrender the right of adequate compensation for the years of laborious application and the money expended to obtain our medical education? What occupation, except that of medicine, presents the incongruous situation of its fellows doing all they can scientifically, educationally and practically, to ruin their own calling, by getting sick people restored to health and teaching them to remain well? What class of men, irrespective of occupation, gratuitously give to charity, year in and year out, more than the medical men? If we are to be reduced to the acceptance of a State-regulated remuneration, why not the plumber, the carpenter, or any other tradesman? I hold it as much of a misfortune for my boiler in my kitchen to burst as that my patients' family be suddenly stricken with illness—yet the State makes no provision for the repair of my boiler, neither does it prescribe what the plumber shall be paid. It is reserved for the learned profession of medicine to be regulated by law as to its activities and its compensation. Who, under such circumstances, would permit a brilliant son to engage in the study of a profession requiring some six or seven years of arduous labor; when, in the end, he is to become a humanitarian dreamer, willing to assume a greasy black gown and a pair of spectacles, and be satisfied with meagre fare and poor compensation? What a splendid inducement for brains and ability.

This bill is an assault upon the rights of every man practicing medicine in the State of California, and should be met with united and determined opposition by every medical man of every school of practice throughout the land. It is an attempt to enslave the profession, to deprive it of its just rights and privileges; and, under the cloak of charity, is selfishly catering to the aggrandizement of a few Socialists and dreamers. Let them prophesy for us as gloomily as they wish, and let them proclaim in the *ipse dixit* platitudes of idealists as they may; the world is a practical problem and we still have it within us to oppose and finally defeat them, but it can only be accomplished by concentrated and united action. *Fideli Certa Merces.*

ABORTION, AND SOME SUGGESTIONS HOW TO LESSEN CRIMINAL ABORTIONS.*

By OSWALD H. BECKMAN, M. D., Fort Bragg.

Abortion is the condition where the product of uterine conception has been brought to an unnatural end in the earlier months of pregnancy.

Abortions are either "accidental or induced."

I shall here dismiss the accidental part of this subject by stating that every physician should know just what to do in the premises, and ought to endeavor to rectify causes producing abortions habitually.

The induced abortions are of two kinds, "legal and criminal."

Let us admit that conditions might arise where an abortion is absolutely necessary (legal).

That will leave for our consideration the criminal part of induced abortions, with suggestions for the lessening of this great evil.

Dr. Charles D. Ball, of Santa Ana, in his excellent article, "Criminal Abortion and the Medical Profession," read before the Southern California Medical Association, in December, 1915, and published in the February issue of the *California State Journal of Medicine*, estimates that there are, at least, five millions of criminal abortions in this country every year, and that the birth rate is about two millions. Assuming one-fifth of those abortions to be repetitions, it would still leave four million individual women criminally aborted every year. If those four million would have accepted motherhood—and we grant, for the sake of convenience, that a mother devotes two years upon an individual baby—it would still leave two millions as the sum total to be added to the estimated two million viable babes born annually. In other words—if criminal abortions could be stopped—it would increase the nation's birth rate by, at least, 100%. I fully agree with Dr. Ball that, if continued, it will annihilate the nation, or that portion of it which has been its backbone in times past. The present and past generation of this nation, and especially the so-called upper and middle classes, will have a great many sins of commission, and omission, to answer for at the

* Read before the Mendocino County Medical Society July 8, 1916.

judgment seat of posterity. The more well-to-do women—leaving out the honestly religious and the absolutely honest—speak slightly about such peccadilloes as a miscarriage, and intimate that they are too smart to have children. Their foreign-born hired girls are very fertile soils for chance expressions to take root in. They ape their mistresses in those liberal and modern opinions on motherhood. A very few years suffices to forget the sacredness of conception, their mothers, and a healthy public opinion, had implanted into them. After getting married they often resort to the same tricks their former mistresses were wont to practise. Unlike the former mistresses, however, they see no necessity for bridling their tongues, are prone to talk on that subject whenever an occasion presents itself, and give advice to those not as well posted as themselves. Judge what effect such opinions have upon the growing generation within the sphere of those influences.

Another cause is the religious and social ostracism placed upon illegitimate conception. It is only recently that religion and society has shown any pity for an unfortunate woman who had loved—not wisely, but too well. She and her offspring were hounded to perdition, while the father of the child—even if suspected, or proven of the paternity—remained a respected member of society and continued prominent in politics and religion. True, in times past, laws have been enacted compelling the lover to legalize both wife and child. Still pity was not the source of those laws. The public demanded them, so the community at large might escape the possible care of the mother and child.

Causes for criminal abortion can be legion, making it a waste of time and space to enumerate. Therefore, let it suffice to state that I believe criminal abortions flourish as never before. The responsibility for them rests somewhere, otherwise there would be none.

The public conscience is aroused once in a while when it becomes known that a criminal abortion was the cause for the untimely death of a victim. However, it seldom happens that the performer of that abortion is brought either to light or to justice. Moreover, I do believe that many of the deaths due to criminal abortion have been ascribed to other causes.

I mind three occasions that thoroughly aroused the public conscience all over this nation. The first occasion was the celebrated trunk mystery nearly forty years ago. A trunk—containing the body of a young woman, victim of criminal abortion—was shipped from place to place for several days until a newsboy drew the attention of a baggageman to the putrid odor issuing from the trunk. Clever detective work proved the crime on a "Dr." Rosenberg, an abortionist in the city of New York. Public opinion demanded punishment and the abortionist got ten years, the full extent of the law. Popular clamor compelled the law-makers of New York to pass severer laws.

The second occasion: also in the city of New York, was that of Madam Restell. She had

amassed a million, or more, as an abortionist. Catered only to the rich and powerful, and lived among the wealthy. The critical public was not allowed to know the sources of her income. Her criminal career came to an abrupt end through a body found floating in the river. The body—that of a young victim of criminal abortion—was traced to have come from the house of Madam Restell. Her arrest produced the greatest of sensations. The public conscience was again aroused to such an extent that no one wished to go her bail. She offered the judge government bonds as security, but even the judge treated her with contempt, and declared he was no custodian for property, and that she had to produce bondsmen. At last, a bonus of \$20,000 secured two German brewers to go her bail. It was hinted that all the wealth and political power—in and around New York—was shaking with fear that Madam might confess, giving names, etc. A day or two after her release on bail, she was found dead in the bath tub, her throat cut, the water turned on and running over. The papers hinted that her suicide must have given great relief to those fearing her revelations.

The third occasion happened in Rhode Island, and recently. In this instance, it was not the death of the victim of criminal abortion that produced the sensation, but the murder of the reputed abortionist himself. The prosecution claimed that jealousy was the cause, and that the murder was due to a conspiracy. His widow was accused and had to stand trial. All the wealth and power of Newport and Providence were lined up on the side of the widow. Why? The fear of exposure was hinted at even here. Public scrutiny of the murdered doctor's books might disclose names. As the widow was acquitted it eliminated the possible danger of any names on those books becoming public. That doctor's income was placed at upwards of \$50,000 a year. His practise was among the society women of Newport and Providence.

Every criminal abortion is a calamity—to the life of the embryo and the morals of its mother—its effect is just as pathetic individually as the millions of victims are to the nation. The public conscience can only be aroused by a calamity—something startling—or by some one capable of forcibly drawing its attention to the enormity of criminal abortion.

Is it not a peculiar fact that persons having the power to influence large bodies of the public, invariably, should use that gift to frighten it with what might happen to the soul in the hereafter? How much more laudable to constantly use that divine gift for the saving of the human embryo.

Why should the evangelists forever spend their time and talent in just frightening people with the wrath of God? Could not that time and those talents be used to encourage and sustain the mothers of the nation in the natural instinct to love and protect their embryo offspring? Labors thus given would become a national blessing to both politics and religion. It would help to eliminate some of the hypocrisy in religion and compel politics to propose and enforce better protection to

the nation's unborn. By constantly hammering at it, the aroused public opinion would compel the governing powers to pass suitable laws and to enforce them.

I fully agree with Dr. Ball that the state should make abortion and its cause reportable. This publicity would do more to eliminate criminal abortions than anything else. It would also enhance the importance and sacredness of the embryo in the minds of the public.

Have a penalty for non-report. If a woman miscarries without any one being present, she should be compelled to report it. Make it obligatory upon any person having a knowledge of an abortion not reported, to notify the proper authorities.

Dr. Ball suggests in addition, that the report should state whether it was a criminal abortion or not, and the name of the consultant. I think that unnecessary, as it is almost impossible to legally prove that, unless the patient herself, or some one else confesses to it. Those matters could be reported—optionally—under the head of remarks. If the person sending in the report knows it to be a criminal abortion, that person must report it to the proper representative of the law or be considered an accessory. (From Dr. Ball's paper—quoting extracts from penal code of California—"Sec. 32. Accessories.")

I shall here mention a case where two reputable physicians were accused by a third one. The woman had been criminally aborted and died from the after effects of it. The magistrate called me to perform the autopsy. There was no question as to the cause of death. When testifying I was asked if any or all of the evidence of violence to the uterus could have been caused by the first two physicians' efforts in trying to save the life of the patient, and whether I could tell if the evidence of violence was due to that or to the production of the abortion. (Debate in your own minds what answers you would give.) To the first I answered that it could. To the second that I could not. At the trial, evidence was brought to light that the woman herself had stated some days prior to the calling in of the first two physicians that she herself had used some means to abort herself. Other corroborative evidence proved the innocence of the accused physicians. I've been told by the consultant that when the first physician was called in, he at once brought the consultant into the case, and that every effort was used to save the patient's life, and that just prior to her death the third physician supplanted them.

It would be utterly impossible for a consultant to know who was responsible for the criminal part in any given case.

What would you do if brought post haste, five or more miles into the woods, to a woman bleeding profusely, and was told that she had slipped while out in the barn, or that she had lifted a washtub, and ever since had occasional pains accompanied by hemorrhage from the uterus? No doubt—time and distance permitting—you would have a consultant, or better still, order her to be brought

to town, if in your judgment her condition allowed it. The most likely course you would take would be to clean out the uterus of whatever caused that hemorrhage. I have arrived ten or more miles into the woods to find the necessity so great for speedily getting rid of whatever caused the uterine hemorrhage that there was hardly time to sterilize my instruments. The patient so weak from loss of blood that she could not lift her hand to her face.

Admitting that in our midst a great many physicians are doing a thriving abortion business, how are we going to prove it? They surely would have made themselves prominent in societies, society, religion or politics, perhaps in all of them, and naturally would have a large following, and enjoy lucrative practises. If they were accused, and incontestable proofs produced, a large part of the public would line up for the defense. Local newspapers would take sides, and if brought before a court and jury, the main witness would have been so manipulated that—after having, on a previous occasion, given uncontestable evidence for the prosecution—she would switch over to the defense. Most likely the defendant's lawyer would bring forward affidavits of good moral character by the hundreds, and contend that jealousy and envy were the basis for the prosecution. He would cunningly place the martyr's halo upon the head of the defendant, and get an acquittal. It may also happen that after the acquittal the prosecuting district attorney would lamely move the court to have that witness arrested for perjury, and also that the court would not entertain the motion. That very thing happened in a neighboring state some twenty years ago. Prominent business men gave affidavits of good character, when requested by the defendant's lawyer. One of the local papers did overtime on invectives upon the heads of those responsible for that investigation. That paper expressed grievance that it was not possible to prosecute those that had demanded the fumigation of the local medical profession. It went so far in its spleen that it even vented its tirades upon the president of the Board of Medical Examiners.

Dr. Ball states that our burden is heavy, but that we are not to blame for the low moral standard of a woman who would destroy her unborn infant. That is true. Nor are we to blame for the sleepy public conscience that has produced it. The blame lies upon society at large, and upon those who are molding the public opinion. The press generally turns into a saint when some individual calamity becomes public, and when society is shocked into abhorrence. But as soon as public interest subsides, then the press also loses interest in the causes responsible for those calamities.

Why could not the well meaning men and women who are expending a lot of energy, and go almost into hysterics over the supposed cruelty of experimental therapeutics, be brought into line to try and help save the nation's unborn victims of criminal abortion? Is not criminal abortion cruelty of the worst kind and deserving of en-

listing the energies of those good and sympathetic people for its suppression? Why could not they be brought to expend the time, energy and means at their disposal to constantly arousing the public conscience to perceive the enormity of criminal abortion? Thus by assisting in the mission to eliminate cruelty from the everyday life of the people towards their unborn descendants, they would more surely attain the object of their efforts. By constantly hammering at the door of the growing public, the conscience of the future mothers of the nation will grow up with better conceptions of their duties and very much higher ideals about their missions. Let us get the nation's evangelists to stir the grown-up public conscience to perceive the enormity of its indifference towards the generations to come. Why should not their (the evangelists) great endowments be used in the service of the unborn.

Collectively let us induce every influence into the cause for the preservation and benefit of the embryo. Individually we must extend respect and deference to every pregnant woman—privately as well as publicly—ever inculcating that same deference into others, especially the growing generation. No woman is indifferent to honest deference and respect. Discourage, privately as well as publicly, those who try to bring ridicule or contempt upon an "unfortunate" pregnant woman. She is indeed unfortunate but not criminal, like those of her sisters who resort to the abortionist. Point out that she is deserving of their pity instead of ridicule, and that the offspring she so bravely cherishes and protects may prove to be, when a full grown person, of use and honor to the nation. Therefore revere every mother, and by your persistency contaminate others to do likewise.

Dr. Ball points out that in the efforts to influence better laws and their enforcements, both state and national, the medical profession must be represented by the societies, for in them is the nucleus of organization. I fully agree with him. Let the State and County Societies ask every candidate for governor, legislator or state senator if, when elected, they would forthwith do their utmost in getting laws passed making abortion and its cause reportable. There should be two separate blanks to be filled, "birth and death." Furthermore, a law should be passed that all known pregnancies—as far as possible—should be reported and the supposed time of maturity noted. Then the family physician—or for that matter some one else—would know if an abortion had been resorted to. If a reported pregnant woman failed to bring forth a child at maturity, and no reports appearing on the records of her having aborted—accidentally or otherwise—she could be used by the state to ferret out the one who relieved her of her embryo. That law in itself would drive both the professional and occasional abortionist out of business. It would also make our specialists and others more careful when a patient presented her-

self for either irrigation or curettement. The possibility of her being pregnant and of some one knowing it would prevent the curettement or irrigation unless positive evidence of non-pregnancy existed.

The American Medical Association, backed by the State and County Societies, should demand from every candidate for congressman or senator a promise that, if elected, each would support, or help initiate, the passage of laws that would give greater national protection to human embryonic life.

Dr. Ball summarizes:

First—The moral standard of many women must be raised.

Yes! And not only that, but of the whole public that sleepily tolerates it. Let us, in a body, try to arouse the public conscience through the means that can reach it. Laws will help some, but you cannot make people good at heart by law. Let the State and County Societies get up a circular to be used by the individual members as representatives of the State and County Societies. Distribute them also by mail, or otherwise, to persons most likely to be able and willing to assist in this propaganda.

Second—The medical profession must clean house.

The suggestions of this paper, successfully carried out, would positively clean the medical profession's house.

Third—The nation must make it possible for the poor to bear children and it must educate the children of the poor.

Does Dr. Ball mean that to lessen criminal abortions the nation should extend its charity to the women of the poor during pregnancy and lactation, and—through national charity—make it possible for the children of the poor to get an education? In other words, to feed and care for the children of the poor during their school age, and to feed and house the mothers of the poor during pregnancy and lactation. If not, is it a suggestion that the nation should take over all the industries of whatsoever character? Thus taking upon itself the duty of supplying everybody with constant work and in that way provide the poor man with the unfailing means of taking care of his wife and children.

Fourth—Federal anti-abortion laws must be enacted.

Yes! and enforced.

In conclusion, let me state that in publicity—together with suitable laws properly enforced—we have the best means to check criminal abortions. Furthermore, into the national conscience must be implanted reverence for the human embryo. The soil for that growing reverence should be constantly cultivated, not only by the society members of the medical profession, but by all good practitioners and everybody that aspires in any way to promote the good of the nation.

UPON THE SERO-DIAGNOSIS OF
GONORRHEA.*

By MARTIN KROTOSZYNER, M. D., San Francisco.

The most epoch making event in the history of syphilis, is, undoubtedly, the application of the reaction for its diagnosis by Wassermann, which, at present, is justly considered a success. About ten years ago Müller and Oppenheim¹ began to utilize the same reaction, in a similar manner, for the diagnosis of gonorrhea. To American investigators, Teague and Torrey² and especially to Schwartz and McNeill³, who were the first to use a polyvalent gonorrheal antigen, belongs the credit of having rendered the test available for clinical purposes. A careful perusal of the literature, concerning the practical value of the test, reveals the following facts:

The test is always negative in the incipient and early stages of acute gonorrhea, since antibodies do not appear in the blood until at least 21 days have passed after the onset of an acute gonorrheal urethritis. A positive reaction during the course of an acute gonorrhea is, therefore, significant of a previous infection.

A triple and double plus reaction points to the presence of a gonorrheal focus in the body.

In certain severe types of gonorrheal infection the positive reaction may persist for some time after cure has been effected.

A slight or single plus reaction is of doubtful diagnostic significance.

By a negative reaction gonorrheal infection cannot be excluded, and only in the absence of gonorrheal symptoms a negative reaction is of diagnostic significance.

The complement fixation test, if done *lege artis*, and by means of a polyvalent antigen, may be considered an accurate method of detecting latent gonorrhea.

In contradistinction to the difficulty and unreliability of the bacteriological and cultural diagnosis of chronic gonorrheal infection, particularly in connection with the question of its permanent extinction, the complement fixation test seems to offer a practically important and, also, on account of the many laboratory facilities, available at present at medical centers, a readily accessible source of information. Statements, though, upon the diagnostic accuracy of the test are at variance. A high percentage of positive findings in non-gonorrheal cases and the contradictory reports of the same serologist with the same blood, as recently observed by Uhle and Mackinney⁴, tend to detract from the test the practical significance ascribed to it by other observers.

I, therefore, decided to verify or refute contradictory views upon mooted points by trying the test out on my own material.

The blood for the test was obtained in the

same manner as for the Wassermann from one of the arm veins near the elbow, and was, with the exception of a few cases, secured by the serologist, Dr. E. E. Johnson. The test was made by means of several polyvalent antigens (McNeill's, Hirschfelder's and an antigen prepared at the laboratory of Drs. Gilman and Johnson). It will not be amiss to give a brief description of the various antigens used in the tests of our material.

In Hirschfelder's antigen suspensions of various strains of gonococci are mixed with alkaline pancreatin, heated to 38° C and allowed to stand at this temperature for 15 minutes; the mixture is then neutralized with HCl and filtered through a Pasteur filter.

Schwartz and McNeill⁵ allow suspensions of gonococci to remain in saline solution for several hours, without shaking, at a temperature of about 37° C. They are then kept at a temperature of 56° C for 30 minutes; placed in a shaker for 24 hours and centrifugalized; the supernatant fluid is pipetted off and used as antigen.

Gilman and Johnson prepare their antigen from 25 different strains of gonococci, which are suspended and cultured on Hirschfelder's testicular extract medium for periods varying between 18 and 48 hours. They claim their medium to assume a higher antigenic value by cultivating their strains at variously long periods of time. The suspensions are then heated at 56° C for three hours, centrifugalized, and filtered through a Berckfeldt filter. The filtrate represents the finished antigen and owes its antigenic value to the endotoxins contained therein.

Tests were made systematically at repeated intervals on patients of the urological service of the German Hospital, which, as a rule, contains a variety of clinical lesions of the genito-urinary tract, including gonorrheal cases, amounting to 150% as an average. In the same manner a number of ambulatory cases were examined at my office. Altogether 142 tests were made on 127 individuals.

Positive reactions were, according to the intensity of complement fixation, designated as one, two and three plus. As with the Wassermann it was deemed best to exclude the one plus reaction from diagnostic deductions, as too indefinite, and to consider it, under exceptional conditions only, as positive evidence.

In 24 cases a three plus, in 17 a two plus, in 25 a one plus and in 75 cases a negative reaction was obtained.

Of the 25 cases with a three plus reaction, all or 100%, were gonorrheoic; 23 or 92.4% suffered from clinical chronic lesions; of the remaining two, one had acute gonorrhea of three weeks standing, while the other, with negative findings, gave a history of previous gonorrheal infection.

Of the 15 cases with a two plus reaction, all

* Read before the San Francisco County Medical Society, November, 1915.

¹ *Weiner Klin. Woch.*, 1906, No. 19, pg. 894.

² *Journ. of Med. Res.*, 1907, No. 17, pg. 223.

³ *Am. Journ. of Med. Sc.*, May, 1911, pg. 673.

⁴ *N. Y. Med. Journ.*, Oct. 15, 1915.

⁵ *Am. Journ. of Med. Sc.*, Dec., 1912, pg. 815.

or 100%, had clinical symptoms of chronic gonorrhea.

Of the 24 cases with a one plus reaction 21, or 83%, had old gonorrheal lesions, while three cases of sexual neurasthenia denied previous infection and gave negative findings. In seven cases of this group gonorrheal complications (two joint-affectations, two prostatic abscesses, two strictures of the anterior urethra, one recurrent bilateral epididymitis) were present. Of the 75 cases, with a negative reaction, 42 were symptomatically or anamnestically intact, and six had acute gonorrhea of less than four weeks duration (not applicable to complement fixation). These 48 clinically negative cases, or 65%, thus corresponded with the negative result of the test, while 27 cases, or 35%, presented chronic gonorrheal lesions. Of these five cases, or 6%, demonstrated severe gonorrheal conditions (stricture, arthritis, chronic vesiculitis, etc.).

In 47 cases the Wassermann of blood was made simultaneously. In 23 cases both reactions were negative. In six cases, exhibiting a triple or double plus Wassermann reaction, the complement fixation test was negative, while in seven cases, in which that test was two or three plus, the Wassermann was negative. A positive reaction to syphilis and gonorrhea, simultaneously, was ascertained in two cases, and then it was one plus only in either conditions, an observation which tallies with that of Gardner and Clowes⁶, who in a series of 185 cases found in only seven, or 10%, a positive reaction for both gonorrhea and syphilis. It is furthermore stated by experienced serologists, that the presence of active syphilitic antibodies in the blood seems to interfere with complete and ready haemolysis in the gonorrheal test.

A comparison of the clinical with the serological findings in our material, demonstrated quite interesting and, occasionally, perplexing results:

Of 92 cases with a gonorrheal history or gonorrheal clinical symptoms the reaction was

- in 20 cases or 22% one plus
- in 39 cases or 42% two or three plus
- in 32 cases or 35% negative.

The great majority of the latter class were either cases of acute gonorrhea or of chronic prostatitis without positive findings of gonococci; but there were also in this class a number of severe active gonorrheal complications (arthritis, stricture of the anterior urethra, vesiculitis, etc.).

Among 48 cases, with neither clinical symptoms nor a history of gonorrhea, the complement fixation test was negative in 44 cases, or 92%, and positive in four cases, or 8%.

For the most common type of chronic gonorrhea viz: prostatitis the test gave the following results:

- It was neg. in eight cases or in 16%.
- 1 plus in 13 cases or 27%.
- 2 plus in 15 cases or 30%.
- 3 plus in 13 cases or 27%.

Counting the one plus with the negative, and

the two and three plus with the positive reactions, the figures for this class of cases are 57% positive and 43% negative reactions.

Eight cases of uni- or bilateral epididymitis gave in three cases, or 37.5%, a negative and in five cases, or 62.5%, a positive reaction.

Three cases of gonorrheal arthritis gave in 100% a negative reaction.

Five women with suspicious vaginal discharge, but negative findings of gonococci, gave in 100% a negative reaction.

Of seven cases of urethral stricture the reaction was negative in three cases (40%) one plus in two cases (30%) and three plus in two cases (30%).

In 17 cases the test was repeated within a month. In nine instances the negative reaction remained the same at the second examination. In two cases a two and three plus reaction was obtained both times, in one case a one plus reaction became negative and in another a two plus was reduced to one plus by the second test. In four cases the reaction became intensified at the second examination, in spite of vigorous treatment (one case with one plus became two plus, one with two plus became three plus, and two cases with a negative reaction became three plus).

The most important drawback to the accuracy of the test lies, to my mind, in the different preparation and efficacy of the antigen. It is well known, that the different strains of the gonococcus differ markedly one from another, in fact the difference in endotoxins is so marked, that the antibodies produced by toxins of one strain may not bind complement in the presence of antigen prepared from another strain. It can certainly be assumed that an antigen prepared from many strains may fix complement, whenever one of its component strains does so; however, it cannot be denied, that there may exist other strains of gonococci, widely differing from any present in a certain polyvalent antigen of even the highest potency. Another source for discrepancy in reactions may be looked for in the difference of preparing the antigen. Viewed from this angle Hirschfelder's antigen is an uncoagulated antibody, while the two other antigens, used for our tests, are made from gonococcal strains, that have been heated to such a degree (56° C) as to render them relatively insoluble. Thus, in nine cases of my series, examined with two antigens, the positive results were uniformly one plus higher with Hirschfelder's than with McNeil's antigen.⁷

With regard to the all important marriage question, in connection with gonorrhea, the test may occasionally add confusion instead of enlightenment. I observed two cases of candidates for matrimony, with a former history of gonorrhea and no clinical findings, in which the complement fixation test was three plus positive. Considering such observations, which I am sure must have been made by others, the question arises, whether

⁶ N. Y. Med. Journ., Oct. 12, 1912.

⁷ See also J. O. Hirschfelder, J. Am. Med. Ass'n., Dec. 11, 1915, pg. 2076.

some individuals may not be chronic gonococci-carriers. The test, on the other hand, exhibits its most important value in the so frequently met with cases of chronic prostatitis on the basis of gonorrheal antecedents, and in these cases a positive reaction is, especially in connection with the marriage question, to be considered a strict indication to postponement of the step and to vigorous local and vaccine treatment.

The best results with the test in my material were obtained in cases between six months and three years standing. It seems that beyond that time antibody formation may cease, and on this theory the explanation may be based for the negative reactions in my series of cases with long standing grave gonorrheal complications.

With regards the exacerbation of positive or the change of negative to positive results, on serological re-examination, the question arises whether a provocative reaction occurs with the test.

It is to be hoped that many of these mooted points will gradually be cleared up through constant cooperation of clinician and serologist. The test may, thus, in time assume the importance and reliability of the Wassermann reaction. For the present my own work has convinced me, that the complement fixation test for gonorrhea, if used and interpreted in connection with the clinical findings, furnishes a valuable aid to the diagnosis of latent gonorrhea.

Discussion.

Dr. A. B. Grosse: I think Dr. Krotoszyner is to be complimented on this excellent and comprehensive report which embodies a great deal of material and work. The complement fixation test as a diagnostic method is of more than ordinary interest because the general practitioner when patients come to him asking permission to marry usually base their answer on the result of the test, many times omitting the ordinary careful examinations of the genito-urinary system. For that particular reason the discussion on the efficacy of the test is particularly valuable and opportune. In my experience this procedure has been unreliable and its results should be accepted as corroborative evidence when all other examinations have been exhausted. In all probability the accuracy of this test will improve with better technic (antigen). As Dr. Krotoszyner has well said "different methods and laboratories differ much in their reports." A point not mentioned by Dr. Krotoszyner that the treatment with vaccines rendered the test useless as it is found to be positive for some time after this treatment. I might mention here a method of my own that has proved of considerable value in clearing up doubtful cases and illustrate it with the following typical history. A Salt Lake attorney whose wife was in Europe had a suspicious connection five months before. Two days following this act feeling worried, he consulted his physician who without preliminary examinations washed the urethra out with a silver solution. About two weeks later he noticed a little discharge which on examination showed no diplococci. He had no further symptoms with the exception of a feeling of fullness of the ant. urethra. A few months later he came to San Francisco and expecting the return of his wife, he thought it best to be thoroughly over-hauled. He consulted two of our well-known Genito-urinary specialists who made all the well

known tests including provocative injections, etc., one of them making the complement fixation test which was frankly negative. He was assured that he was in every way safe to meet his wife. He then consulted me. The examinations made having been so exhaustive, I advised that a repetition would be useless. The only suspicious element was the appearance of the urethra and the conviction of this intelligent man that his abnormal sensations dated from the date of his coitus. I gave him daily one-third of the ordinary therapeutic dose of a potent gonorrheal vaccine with the definite intention of breaking down his resistance and creating a marked negative phase. After the fifth injection the points of injection became painful and reddened and a small amount of secretion from the urethra showed many intracellular gonococci. This method in indicated cases has proved of extreme value to me.

Dr. J. C. Spencer: Not to take up the time of the Section too only, if I may be permitted, I would like to give a brief outline of a case in my own experience bearing on the value of the complement fixation test.

A young man, single, contracted gonorrhea six years ago, complicated by epididymitis. He was treated at that time with polyvalent vaccines, to which he reacted, and subsequently apparently recovered from all symptoms of his gonorrheal infection. There was apparently no extension to his prostate and every appearance of his being free from his gonorrheal infection.

About three years later he married, feeling sure that he was perfectly safe. His marriage resulted in a healthy child. The wife was at no time infected; the child had no blenorhea. Subsequently the man had a slight discharge about which he consulted me. I had the discharge examined culturally and found only micrococcus catarrhalis. The discharge practically disappeared.

About a year ago the patient re-appeared with a slight discharge. I told him that the complement-fixation test for gonorrhea was being used, and we tried the test, which was carried out at one of the laboratories. The report was "positive."

I will say by way of explanation, that this young man, in spite of my assurances, had always had a lurking doubt and always, previous to coitus, had injected himself with a weak solution of permanganate of potash.

About two months ago he came to me and said he was noticing a little moisture in the meatus. I found a stricture of wide calibre. This was dilated. There was a profuse purulent discharge with typical gonococci (confirmed in the laboratory). In view of the subsequent development of a typical gonorrheal relapse, he not having exposed himself and taking no chances on infecting his wife, I merely cite this as an illustration of the value of the complement-fixation test in determining what was evidently latent gonorrhea.

Dr. William E. Stevens: In this connection, a fact of importance which I have not seen mentioned in the literature has been called to my attention by Dr. Johnson of the Pacific Wassermann Laboratories:

He found that by inoculating a guinea pig with Gram positive diplococci a culture from the blood of that pig would yield Gram negative diplococci having all the cultural, morphological and staining characteristics of gonococci.

This seems to point out a fruitful field of experimentation, the results of which might have a very definite bearing upon the prognosis and treatment as well as the sero-diagnosis of gonorrhea.

Dr. R. L. Rigdon: The term "strain" seems to have at least two meanings. First it relates to certain differential cultural peculiarities in the various growths obtained and second it seems to be

used to indicate growths of gonococci obtained from different patients without regard to cultural features.

I would like to enquire in which sense it is used in the discussion tonight.

Dr. M. Wolff: Dr. C. C. Worden read a paper on this subject at the last A. M. A. meeting here. He claimed that the autolysis of the bodies was due to lytic changes, due mostly to moisture. By growing the gonococci on a dry media, lysis is prevented and the fats or lipoids can be extracted. He claims that these lipoids are the active principles of the antigen, and an antigen made in this way gave him much better results in the cases he reported. We have some of his antigen and so far our results have been better, but the number of cases is not yet great enough to make a definite report. The test is important, especially when a positive is found. When a perfect antigen is found the test will be greater enhanced and this latest work seems to be a step in that direction.

Dr. E. E. Johnson: We obtain the different strains by culturing the organisms from patients suffering with different stages of the disease. For instance, we culture from several patients with a primary infection and several with a chronic infection of several months standing, and from several patients with an infection of several years standing. In the latter cases we usually culture a Gram-positive diplococcus with all the morphological characters of the gonococcus. This organism we believe to be an involutionary form of gonococcus which has lost its staining characteristics, possibly due to the acidity of the mucosa. We can also bring this organism back to its original Gram-negative staining characteristics by repeated inoculations. We always use these organisms in our gonococcus antigens.

Dr. Leonard: Can You grow gonococci from a chronic prostatic infection?

Dr. E. E. Johnson: We were unable to culture Gram-negative diplococci but succeeded in culturing, in a great many cases, the Gram-positive diplococcus which I have already mentioned.

Dr. Krotoszyner, closing discussion: I have purposely dilated in my paper upon the method in which the various antigens are prepared, in order to demonstrate, by these means, that difference in test-results, might in all probability be due to different potency of antigens. In the difficulty of obtaining an antigen of high potency lies, to my mind, the weakness of the test. This point is best illustrated by comparing the methods, by which the antigens for syphilis and gonorrhea are obtained. The antigen in syphilis is the extract of a parenchymatous organ like the liver of a syphilitic foetus, while the antigen in gonorrhea is obtained from a series of cultures of gonorrhoeic pus. As long, therefore, as we are not in possession of a standardized antigen, the complement fixation test for gonorrhea cannot yet assume the important position in the diagnosis of gonorrhea that the Wassermann now obtains for syphilis.

SEPTIC TEETH.

By JOHN S. MARSHALL, M. D., Sc. D., F. A. C. S.
(Captain U. S. Army, Retired.)

(Continued from page 407, October issue.)

In the chronic form of the disease, if the X-ray picture shows a straight root, and only slight involvement of the bony structure about the apex, sterilization and root canal filling should be attempted, but, if it does not respond after a fair trial, it is better, in view of the dangers from chronic general sepsis to extract the tooth.

(d). Teeth which have been treated by removal of the pulp and filling of the root-canal, but in which the dentinal tubuli and fibrillae have not been thoroughly sterilized.

In an earlier portion of the paper, we called attention to the proportions of the organic and inorganic constituents of bone and dentine, and it was shown that the organic matter in dentine was nearly as great as that in bone.

We also stated the generally recognized fact that sepsis from bone and dental tissue is exceedingly virulent in character. Dr. William Hunter, of London, considers this to be the most grave of all forms of sepsis.

In the preceding remarks we have been dealing with sepsis from decomposing and gangrenous soft tissues. We now deal with sepsis as produced by the decomposition of the organic matter found in the calcified structures; namely, bone and dentine.

When nutrition is cut off from any part of the body, it dies. In other words, it is necrosed. If this happens to be a portion of the soft tissues, the necrosed portion is soon sloughed off. If it be a calcified structure, like bone, the necrosed portion is separated from the living by a somewhat similar but much slower process. Only tissues which have a blood circulation have the power to separate the dead tissues from the living.

The hard, or calcified, tissues of the teeth have no blood circulation, as a rule. The only exception is to be found—and that only occasionally—in the thicker portions of the cementum near the apex of the root, where a few haversian systems may be found.

Calcified dental tissues, therefore, have no power to separate a dead portion from a living one, and consequently have no power to re-produce tissues that has been lost by disease—as in caries, or by traumatism.

When Nature desires to rid herself of an offending tooth, a low type of chronic inflammation is set up in the pericementum and, little by little, the alveolus which gives support to the tooth is removed—in senile conditions by resorption—(senile atrophy), and in septic conditions by suppuration and caries, (molecular degeneration, or necrobiosis), and the tooth is eventually exfoliated.

Teeth of class (d) type are very rarely comfortable. They are subject to periodic attacks

**PATRONIZE
YOUR JOURNAL
ADVERTISERS**

of slight soreness, but which is not usually in evidence at first, except upon palpation, percussion, or the stress of mastication. Occasionally the individual will complain of vague neuralgic pains in the jaws in the neighborhood of these particular teeth. Later, symptoms of pericementitis develop; the tooth becomes sore and loose; pus exudes from the alveolus, or can be expressed from around the margins of the gums by a stroking motion of the finger. In its symptoms it closely simulates the objective inflammatory phenomena of what is generally termed pyorrhea alveolaris. These phenomena are produced by the toxic products of the putrefactive decomposition of the 28% of organic matter in the dentine, which find their way through the tubuli of the dentine, as through a filter, to the cementum, and through it to the pericementum, setting up a septic inflammation in the alveolar tissue, the products of which are absorbed and disseminated through the system, producing a septic toxæmia.

What shall be done with these teeth? We say, unhesitatingly, in view of the foregoing statements, they should be extracted, and the earlier this is done the better it will be for the general health of the patient.

Your essayist is old enough to have seen many changes in medical and dental practice, some of which have been for the better, some for the worse. In the early days of my professional life, it was the almost invariable practice among dentists to extract all teeth that were abscessed; thus ridding the system of the dangers which surrounded their retention. This was safe practice, and is to be commended in a majority of cases. Today, the dentist frequently treats these cases, at the request of his patients, with the hope of curing them, that a crown or bridge may be inserted. In most instances, these diseased, septic, abscessed teeth are not amenable to treatment, and would, therefore, be better out of the mouth.

With the introduction, a little over 35 years ago, of the present methods of crown and bridge work, has come the scourge of mouth sepsis; a condition which, I believe, is a very serious menace to the general health of our people and to the longevity of the race. There is a growing tendency however, upon the part of the better class of dental surgeons, who are alive to the seriousness of mouth sepsis, to condemn, in the most positive terms the present ruthless destruction of healthy dental pulps for the purpose of inserting crowns and bridges, without proper treatment and filling of the root-canals.

Crown and bridge work have their legitimate place in dental practice, and under favorable conditions and proper construction, there are no methods of replacing lost teeth that are equal to them. But the methods are abused, shamefully abused, and by those who should know better.

The difficulties which surround the proper treatment and filling of the root-canal of pulpless teeth are very considerable. There is no operation in the whole realm of dental procedures,

and I doubt if there is one in the whole field of operative surgery, that requires a greater degree of technical skill and such unlimited patience as does the perfect filling of a root-canal. Consequently, the dentist of average ability, rarely, very rarely succeeds in making a perfect operation of this class. This statement has been abundantly proven by numerous X-ray pictures.

For this reason your essayist would suggest that in the future these operations be classed as a Specialty, and only performed by men who will specialize in this direction.

Discussion.

Dr. A. L. Fisher: I think we are all obliged to Dr. Marshall for showing us details of things that are very hazy in most of our minds. We are hardly familiar with the details of the pathological processes that go on in the teeth.

I do not think there is any question of the seriousness of dental sepsis. My own personal experience has been that in these conditions of acute and chronic arthritis, etc., cleaning the teeth and putting the mouth in proper condition is of more value than any other one procedure. Sometimes results are good. Sometimes, on the other hand, they are not so good. I have seen two instances of very serious results, in cases of chronic arthritis, following from the cleaning up of the teeth. It seems like stirring up the sleeping dog. You get added sepsis. On the other hand, I have seen a considerable number of cases in which the effects have been good.

I want to steal a little of Dr. Alvarez's thunder. He showed me in an old medical journal, published in 1802, where Benj. Rush reported a case in which the patient was suffering from rheumatism of the hip, and the surgeon, observing a very bad tooth, ordered it extracted, whereupon her rheumatism cleared up.

I was also very glad to hear Dr. Marshall talk as he did about crowns. In clinic practice in particular, it is astonishing the number of crowned teeth from which one can see pus exuding, with a frightful odor coming from the mouth, presumably from these points of sepsis.

There is one other thing that has struck practically every medical man. Most patients have their own dentists and the medical man does not feel justified in telling them to change their dentist when the patient comes back to him with the teeth practically in the same condition as when he sent him to the dentist. Maybe a few gross cavities are filled, but the general sepsis is not cleared up. It is rather a delicate question—a question of ethics—what we are going to do. I believe, myself, that we should have some way of knowing some group of dentists whom the dentists, themselves, believe competent. I have been disappointed any number of times, after patients have had the teeth apparently fixed, to find the condition remaining the same. If there is any way of finding out who is competent and capable, without treading on too many toes, I think it would be of great benefit to very many patients.

Dr. W. C. Alvarez: Dr. Fisher's remarks are very true. Just as many of us need instruction in these matters, so there are many of the dentists far behind the times. I have had a number of unpleasant experiences in sending patients to confer with their dentists; and have gotten used to having men ring me up to ask what I meant by insinuating that their work was not good. Often they have filled a few cavities, leaving other teeth in bad shape, perhaps with pus oozing out of so called pyorrhea pockets. I believe our

ethical duties should terminate at this point. The dentist has had his chance and if he doesn't know enough to take it, my duty to the patient is more important; and I refer him to a dentist who does know what to do and how to do it.

I have seen some very remarkable results from cleaning up teeth in joint cases, but have also been disappointed many a time. I send also a large proportion of my stomach cases to the dentist for two reasons: Some must get rid of the pus they are swallowing, and others must fill in the gaps in their chewing surface. Many people have no chewing surface. They may have a number of teeth, but they are not like the old lady who was always thanking God for his manifold blessings; one of these was, that though she had only two teeth, they bit. Theirs do not hit. Very often the dentist does not seem to think this a serious matter; but if you examine the stools of some of those patients, you will often find great lumps of food that have gone through the tract undigested, and interfering with the assimilation of other materials.

It is very hard to know how to advise some patients in whom the X-ray shows small pus pockets at the roots of four or five teeth. Perhaps it is a woman, underweight, asthenic and enteroptotic. Can we promise her enough improvement in health to justify her in losing those teeth? Perhaps she hasn't the money to have them replaced properly. The enthusiast says: take them out. I hesitate, and feel like waiting until a greater experience has accumulated.

A number of men have worked on the theory that gastric ulcer is due to infection by mouth bacteria and have even produced ulcers in animals; but the problem seems to be much too complicated for so simple a solution. There are many other factors to be reckoned with. I have seen some cases of ulcer that suggested such an etiology, but we must always be very careful in excluding other causes. Two years ago I saw a woman with severe gastric symptoms and a mouth full of bad teeth and pus pockets. She had lost forty pounds in weight and vomited in the morning pus she had been swallowing all night. Dr. Novitzky put her mouth in perfect condition and she got better. After a few months she was still underweight and suffering. A positive Wassermann was then found, and two injections of salvarsan restored her promptly to perfect health.

Dr. C. F. Welty: I would like to ask the speaker what relation, if any, the tooth root cysts bear to root infections. It seems to contain a secretion that has flakes that glitter.

Dr. J. S. Marshall (closing discussion): I had hoped that somebody would have something to say about the suggestion I made with regard to gangrenous pulps and gastric ulcer, and that I had struck something that might be interesting from the medical and surgical standpoint. Perhaps when you think the question over a little, you may see something in it. I am not sure there is, myself, but it struck me as a very strong probability. No one knows today, I believe, what causes ulcer of the stomach anyway. It is a question that has never been settled, I mean as to its etiology.

Dr. Fisher spoke of crowns and bridges and having seen so many of the cases where pus was welling up around the cervix of the tooth upon the slightest pressure. If the crown or bridge is properly made and the tooth has been properly treated beforehand, those conditions should not obtain. When they do, they are the result of slovenly work on the part of the dentist. I am sorry to say a great many men who call themselves dentists are not dentists. They are the kind the newspapers talk about sometimes as

"tooth carpenters." Such a dentist knows nothing and cares nothing about his profession. All he is after is the shekels.

Dr. Alvarez asked about amputation of roots. I did not speak about it because I did not go especially into the treatment. I believe some of these cases can be cured by root amputation, some of them by amputation in position in situ and others by extraction and replantation. I prefer, if I can, to extract the single rooted tooth, amputate the diseased end of the tooth while I can see what I am doing, finishing it perfectly smooth, leaving no sharp edges, keeping it practically warm during the operation, opening up the pulp canal and sterilizing it thoroughly with 1:500 bi-chloride, then dehydrate it and fill the canal with gutta-percha, sealing the apical end with a gold filling so that it would be impossible for any leakage to occur, either from the tooth or from the tissues into the tooth. If I were in Chicago, where I practiced before I went into the U. S. Army, I could show you sixty or seventy cases that I treated in that way by extraction and replanting, and I never yet lost a tooth from such an operation. They all of them got well. But some of these cases that are treated by amputation in situ do not get well, because they have not been properly done. You cannot seal the apical foramen with a gold filling under such circumstances. All you can do is to put in a gutta-percha filling, which is soft and has a little chloroform in it. When the chloroform has evaporated, there is space for fluids to leak down into the tissues and cause sepsis.

Dr. Welty asked about cysts. There are several forms of cyst that we come across in the treatment of teeth. One is the inflammatory cyst that follows an abscess. The pus disappears and the cavity fills up with serum. Another form is the dentigerous cyst with a secretion that is glairy, like the albumen of the egg and has floating in it flakes of Cholesterine. These are usually the most difficult to treat and cure. But, of course, by removing the cause of irritation and thorough curetment they can be cured.

SOCIETY REPORTS

ALAMEDA COUNTY.

The following meetings were held during the month of September:

September 5th, Dr. McCleave, chairman.

The Subnormal Child, Dr. L. M. Terman, Stanford University. Discussion by Chief of Police Volmer of Berkeley and Mrs. W. Hicks of the Oakland School Department.

September 12th, Dr. E. von Adelung, chairman.

I. Pleural Effusion, Dr. P. E. Abbott. II. Recent Advances in Treatment of Tuberculosis, Dr. C. L. McVey. III. Tuberculin, Dr. Florence Sylvester. IV. Data on Pneumothorax, Dr. E. von Adelung. Illustrated by plates.

September 19th. Regular monthly meeting.

I. A Brief Review of Some of the Late Developments Along Immunological Lines, Dr. R. A. Archibald. II. The Attitude of the Physician Towards the Venereal Patient, Dr. A. M. Meads.

September 26th, Dr. Alvin Powell, chairman.

I. Vicary's Anatomy, the first anatomy published in English, Dr. G. W. Corner, Dept. of Anatomy, U. C. II. Personal Investigations into the Hygiene and Health of the Flower of the American Indians, Dr. Alvin Powell. Illustrated by stereopticon.

ELMER E. BRINCKERHOFF, Secretary.

SACRAMENTO COUNTY.

Regular September meeting called to order by J. H. Parkinson, at 8:50 p. m. Thirty-seven members present. Minutes read and approved. Report of cases:

1. Evulsion ligaments of knee.
2. Evulsion ligaments of elbow.
3. Uterus didelphys.
4. Stone in broad ligament.
5. Foreign body in oesophagus. By Dr. H. D. Barnard.

Recurrent facial paralysis, five attacks, Dr. E. W. Twitchell.

Alkaptonuria, Dr. F. F. Grundrum.

Fracture of four cervical vertebra, first to fourth, Dr. J. B. Harris.

Paper of the evening: Uterine Fibrosis: Causation, Prevention, and Conservative Treatment, Dr. W. A. Briggs.

Discussed by Drs. Henderson, G. A. White, Harris, Cox, S. E. Simmons, Miller, Lawhead of Woodland, Fred Fairchild of Woodland, Bates of Davis, Hayes, D. V. M., of Davis, Parkinson. Closed by W. A. Briggs.

Regular October meeting, Hotel Sacramento, October 17, 1916.

Dr. Parkinson, president, in the chair.

Members present, 26.

Minutes of previous meeting read and approved.

Cases reported:

1. Osteosarcoma of Femur Simulating Fracture. H. D. Barnard, M.D.
2. Hydated Cyst of Liver. F. F. Grundrum, M.D.

Paper of the Evening: Floating 8th, 9th, and 10th Costal Cartilages, by E. C. Turner, M.D.

Discussion opened: C. B. Jones, M.D.

Discussed: H. D. Barnard, M.D.

Discussion closed by Dr. Turner, who gave the Society an interesting account of Military Medical affairs on the Border.

The President announced a special meeting to hear an address on Social Insurance by I. M. Rubinow, M.D., on Tuesday evening, October 24th, 1916, at the Hotel Sacramento, at 8:30 o'clock sharp.

Dr. Bernard announced the California Northern District Medical Society, at Sacramento, November 14, 1916.

Adjourned.

F. F. GUNDRUM, M.D.,
Secretary-Treasurer.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of September, 1916, the following meetings were held:

Tuesday, September 5th—Section on Medicine.

1. Neuritis and Paralysis as Complications of the Intensive Pasteur Treatment. J. C. Geiger, Bureau of Communicable Diseases, Berkeley.

2. Fat and Fatty Degeneration (illustrated by lantern slides). Martin H. Fischer, Professor of Physiology, University of Cincinnati.

3. Rules and Regulations of the State of California and the City of San Francisco, Relative to the Prevention of an Epidemic of Poliomyelitis. Wm. C. Hassler, Health Officer, City and County of San Francisco.

Tuesday, September 12—General Meeting.

1. Co-operative Medicine in Relation to Social Insurance. J. L. Whitney.

2. The Physician's Attitude Toward Health Insurance. I. M. Rubinow, Consulting Actuary to the Social Insurance Commission of California.

3. Should the Medical Profession Plead in Favor of the Proposed Health Insurance Bill? J. H. Graves.

Tuesday, September 19th—St. Luke's Hospital Clinical Evening.

1. Hernia of the Urinary Bladder. Harry M. Sherman.
2. Presentation of Case. Harry M. Sherman.
3. Prostatitis in Men Past Middle Age. W. P. Willard.
4. Spontaneous Amputation of Tube and Ovary. G. M. Barrett.
5. Roentgen Treatment of Localized Pyogenic Infections; Report of Eight Cases. H. E. Ruggles.

Tuesday, September 26th—Section on Eye, Ear, Nose and Throat.

1. Presentation of Cases:
 - A. Carcinoma Base of Tongue Treated by Cautey and X-Ray. Henry Horn.
 - B. Parotid Gland Emptying Into the Antrum of Highmore; Result of Double Antrum Operation. C. F. Welty.
 - C. Persistent Hyaloid Artery. W. S. Franklin.
 - D. Result of Operation on Inferior and Superior External Rectus. R. P. O'Connor.
2. Symposium on Extraction of Senile Cataract:
 - A. The Incision. Vard Hulen.
 - B. Preliminary Iridectomy. Hans Barkan.
 - C. Capsulotomy. W. S. Franklin.
 - D. Extraction in Capsule. W. F. Blake.
 - E. My Favorite Method of Cataract Extraction. K. Pischel.

SAN DIEGO COUNTY.

The regular meeting for July was held at La Mesa, July 18, 1916. Dr. Robert Smart delivered a short address on "Red Cross Preparedness," or "what the women could do in the event of war." The greater part of the program was of a social nature. The society was the guest of the local physicians, Drs. Mallory, Parks and Zochert. The attending physicians took their wives with them and all report an enjoyable time.

Three meetings were held in August. August 1st, symposium on pellagra with the following papers: (1) "The Troublesome Question of Its Etiology," by Dr. J. E. Jennison. (2) "Its Skin Symptoms," by Dr. J. C. Yates. (3) "Its Neurologic Aspects," by Dr. T. Coe Little. (4) "Its Gastrointestinal Symptoms," by Dr. T. S. Whitlock. (5) "What We Know of Its Treatment," by everybody.

August 15th, focal infection with two papers: (1) "Foci of Infection in the Ear, Nose and Throat," by Dr. Frank A. Burton. (2) "The Heart in Relation to Focal Infection," by Dr. H. F. Andrews. The discussion was opened by Dr. Robert Maloney.

August 29th, the second of a series of social meetings was held at the Wednesday Club House. More than forty doctors and their ladies were present. The program consisted of vocal and instrumental music from some of San Diego's finest artists. There was dancing to the music of a four-piece orchestra and refreshments were served. Plans for the Annual State Meeting were carefully discussed.

Two meetings were held in September. September 5th, the following papers were given: (1) "Some Fractures About the Elbow," by Dr. M. C. Harding, assisted by Dr. L. C. Kinney, with lantern slides. (2) "The Hormone Equation of the Psychoses," by Dr. C. R. Carpenter.

September 18th, Dr. Robert Pollock presented a paper on diabetes.

The committee on general arrangements for the State Society Meeting in April, reports remarkable progress. Satisfactory arrangements have been

made at Hotel Del Coronado for accommodations, both for our guests personally and for meeting hall. Mr. Hernan, the manager of the hotel, is a member ex-officio of the committee and is sparing no pains in perfecting arrangements for the entertainment of the doctors from the north. The meeting promises to be unique in the history of the society.

O. G. WICHESKI, M. D.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held on Friday evening, September 29th. Those present were: Drs. F. P. Clark, D. F. Ray, W. E. Gibbons, J. D. Young, C. E. English, B. T. McGurk, S. E. Latta, S. F. Priestly, L. Dozier, H. Smythe, Margaret Smyth, Minerva Goodman, E. A. Arthur, J. J. Tully, B. J. Powell, J. T. Davison, S. P. Tuggle, R. B. Knight, Mary Taylor, R. B. Hammond, C. R. Harry, W. T. McNeil, H. J. Bolinger and E. B. Todd of Lodi, G. G. Hawkins of Ione and D. R. Powell with Dr. Hollinger and Dr. Williamson of Stockton, Dr. Surryhne of Modesto and Dr. Herbert C. Moffitt of San Francisco as guests.

The regular order of business was dispensed with in order to proceed at once to the paper of the evening by Dr. Moffitt on the subject of "Mediastinal Tumors." He very thoroughly covered his topic from the standpoint of history, symptoms, physical signs and differential diagnosis, illustrating his points by case histories and with lantern slide pictures, radiographs and preserved specimens. Unfortunately Dr. Moffitt was compelled to leave immediately at the conclusion of the address in order to get back to San Francisco the same evening, which prevented a general discussion of the interesting paper.

At this point the society was honored by the presence of Dr. Ray Lyman Wilbur, President of Stanford University, who in his usual happy way gave some observations on "Mediastinal Tumors," the subject of the evening, and then spoke on his deep interest in the maintenance of a high standard of medical work in California, and told the purpose of the organization of the California Society for the Promotion of Medical Research of which he is president.

DEWEY R. POWELL, Secretary.

SANTA BARBARA COUNTY.

Monday, September 11, 1916, the society met in regular session at about 8 p. m. at the Arlington Hotel. It was called to order by the president, Dr. C. S. Stoddard. The secretary, Dr. William T. Barry, at his desk. Present: Drs. Bakewell, Barry, W. B. Cunnane, R. Brown, Flint, Clarke, Lovern, Pierce, Stevens, Stoddard, Wells, Ryan, a total of twelve members. No visitors or guests.

The chair first called for clinical cases. Dr. Ryan reported an important case of injury to the eye. The injury was very extensive, including most of the important structures of that organ. The doctor was successful in his treatment of the case and hopes the patient will finally have use of the eye.

Dr. Bakewell reported an important and interesting case of twin birth. The patient was delivered of two living children. The president then called for the papers and discussions of the evening. A symposium on acute poliomyelitis (infantile paralysis). The etiology, clinical history and prognosis, by Dr. Benj. Bakewell. Pathology, by Dr. Wm. H. Flint; prophylaxis and quarantine, by Dr. C. S. Stevens; medical treatment, by Dr. R. M. Clarke; surgical treatment, Dr. Rexwald

Brown. All these papers were highly scientific and instructive, and were duly discussed by all present.

The chair then announced that the unfinished business section was reached. Dr. Barry rose and moved the adoption which he had previously given written notice concerning, of a change in the constitution looking to election of all officers by postal ballot system. Dr. Flint seconded Dr. Barry's motion. The president called for discussion. Dr. Ryan objected that Dr. Barry was not technically correct in his method of bringing his motion. Dr. Bakewell also took a similar ground. Dr. Barry argued his motion and moved for a vote. He claimed that the postal ballot system was the only strictly correct and scientific method for the election of officers as it gave each member of the society an opportunity to vote, irrespective of whether he was able to be present in person, at the annual meeting. However, the chair ruled that Dr. Barry's motion not being technically correct in its presentation, was out of order, and consequently it was laid on the table.

Under announcements, the president read the secretary's resignation, to take place October 1st next, stating that Dr. Barry contemplated a protracted absence from Santa Barbara which rendered this action necessary on his part. Dr. Rexwald Brown arose and after a kindly speech of appreciation of the secretary's past services, moved a vote of thanks to Dr. Barry for his long and faithful official acts. Dr. Bakewell also rose and spoke on similar lines. Dr. Brown's motion was duly seconded and unanimously carried. Dr. Barry thanked the members warmly for their kindly vote of thanks and stated that his interest in the welfare of the Santa Barbara County Medical Society and in scientific medicine came from the bottom of his heart, and he indeed wished the members of the Santa Barbara County Medical Society a happy and prosperous future. After the acceptance of Dr. Barry's resignation the chair appointed Dr. R. Manning Clarke to fill out Dr. Barry's unexpired term. Adjourned.

WILLIAM T. BARRY, Secretary.

SISKIYOU COUNTY.

The Siskiyou County Medical Society met on Monday, October 2nd, at the home of Dr. Howard R. Parker in Dunsmuir. Dr. Wm. Tebbe gave an interesting talk on "La Grippe" and Dr. W. F. Shaw read a very instructive paper on "Sanitation and Diseases of Panama."

Among those present were Drs. Chas. Nutting, Sr., Hathaway, Will Tebbe, Chas. Nutting, Jr., Chas. Pius, Hal Warren, W. F. Shaw, H. R. Parker and J. Ray Jones.

At the close of the meeting the society had dinner with Dr. Parker. The next meeting will probably be held at Weed.

J. ROY JONES, Secretary.

SAN FRANCISCO POLYCLINIC POST GRADUATE EXTENSION LECTURES.

Notice to the Medical Profession.

Any lecture of the following course, is offered, free of charge, to the County Societies of this state and immediately adjoining territory. Notice should be sent to the Dean at least two weeks prior to the desired attendance and in the event of the distance from San Francisco exceeding fifty miles, the traveling expenses must be guaranteed.

H. D'ARCY POWER, M.D., Dean.

Medicine.

Dr. P. K. Brown:

1. "Relation of the Doctor to the Health Insurance Plan."
2. "Mental Diseases in Private Practice."
3. "Manifestations of Arterial Deterioration."

Dr. D'Arcy Power:

1. "Intestinal Sub-digestion."
2. "The Liver in Chronic Diseases."
3. "The Dropsies and Their Treatment."

Dr. H. Kronenberg:

1. "Intermittent Claudication of the Upper and Lower Extremities."
2. "Diagnostic Methods of the Gastro-Intestinal Tract."

Pediatrics.

Dr. S. Blum:

1. "Rhino-Pharyngitis in Infancy and Childhood."
2. "Systemic Infection in Childhood."

Surgery.

Dr. H. A. L. Ryfkogel:

1. "Treatment of Infections."
2. "Theory and Use of Bone-Grafting."
3. "The Surgical Treatment of Gastric Ulcers."

Dr. G. Barrett:

1. "Gastro Jejunal Ulcer Following Gastro Enterostomy."
2. "Technic of Gall-Bladder Surgery."
3. "Operations for Umbilical Hernia."

Dr. Bunnell:

1. "Treatment of Infections."
2. "Practical Points in Accident Surgery."

Genito Urinary Diseases.

Dr. M. Krotoszyner:

1. "Upon the Diagnosis and Treatment of Early Stages of Hydronephrosis" (Lantern Slides).
2. "Bladder Tumors: Their Early Diagnosis and Modern Treatment."
3. "Present Status of the Sero-Diagnosis and Treatment of Gonorrhea."

Gynecological Urology.

Dr. W. E. Stevens:

1. "Modern Diagnosis and Treatment of Urinary Lithiasis."
 - a. Kidneys and Ureters.
 - b. Bladder and Urethra.
2. "Functional Kidney Tests."
3. "Modern Treatment of Syphilis."

Dr. S. A. Goldman:

1. "Modern Treatment of Gonorrhea Methods."

Gynecological.

Dr. C. J. Teass:

1. "Caesarian Section."
2. "Technic for the Repair of Complete Laceration of the Perineum."
3. "Technic for the Correction of Cystocele."
4. "Experiences in the Various Methods of Handling Pelvic Infections."
5. "Carcinoma of Uterus."
6. "Ectopic Pregnancy."

Eye.

Drs. A. S. and L. D. Green:

1. "The Treatment of Cataracts" (with moving picture demonstrations).

Ear.

Dr. C. Welty:

1. "Report on Some Interesting Ear Cases."
2. "A Series of Sinus Thrombosis Cases."
3. "Performance of Tonsil Operations Under Local Anesthesia on Grown People."

Nose and Throat.

Dr. H. Horn:

1. "The Value of Endoscopic Examinations of the Upper Air Passages in General Medical Practice."
2. "The Pros and Cons of the Tonsil Operation

from the Standpoint of the General Practitioner."

3. "Newer Methods of the Treatment of Cancer of the Head and Esophagus."

Orthopedics.

Dr. Watkins:

1. "The Modern Treatment of Tuberculous Diseases of the Spine."
2. "The Modern Treatment of Ununited Fractures."
3. "Operations for Defects of the Hip Joint."
4. "Operations, which Having Stood the Test of Time, Can Properly be Employed in the Treatment of Deformities Following Infantile Paralysis."

REPORT OF THE MEETING OF THE STATE BOARD OF HEALTH, OCTOBER 7, 1916.

The State Board of Health met in Sacramento, October 7, 1916, for its regular monthly meeting. Drs. George E. Ebright, F. F. Gundrum, Edward F. Glaser, Adelaide Brown, Robert A. Peers and Wilbur A. Sawyer were present.

Regulations for the prevention of typhus fever, as prepared by the secretary, were approved and adopted.

Ralph W. Nauss, M. D., Dr. P. H., was appointed to the position of assistant epidemiologist in the Bureau of Communicable Diseases, for a period of one year, without salary, beginning October 1, 1916. Dr. Nauss is detailed to devote his entire time to the investigation of hookworm in California and to make a full report when the work is concluded.

The secretary was appointed to represent the Board at the meeting of the association for the study and prevention of infant mortality in Milwaukee, October 19th to 21st, as well as the meeting of the American Public Health Association at Cincinnati, October 24th to 27th.

The Board approved of a permanent exhibit at the State Exposition Building at Los Angeles.

A number of complaints of residents near Hyperion, relative to the outfall sewer nuisance, were presented to the Board. It was the sense of the meeting that the building of the pier at Hyperion, as already recommended, is a necessary preliminary step and must precede the construction of the Inhoff tanks.

The President appointed Dr. Adelaide Brown a committee of one to confer with Miss Amy Steinhart, Chief Children's Agent, relative to the formation of a board for the purpose of promoting the welfare of the State's orphan wards.

In accordance with the recommendation of the Director of the Bureau of Registration of Nurses, the State of Kentucky having a nurse's registration law, the requirements of which are equivalent to those of the California law, was placed upon the accredited list, graduate nurses from accredited schools in the State of Kentucky to be admitted to registration in California, upon complying with the rules and regulations of the Board.

In accordance with the recommendation of the Director of the Bureau of Registration of Nurses, the following applicants, having complied with the law and with the rules and regulations of the Board, were granted certificates as registered nurse: Julia Sophia Chubbuck, No. 5465, Illinois; Irene L. Jones, No. 5467, Wisconsin; Margaret Traver, No. 5466, Iowa; Anna M. D. Vollstedt, No. 5468, Nebraska.

In accordance with the recommendation of the attorney for the Board and the Director of the Bureau of Foods and Drugs, the following addition to regulation two for the enforcement of the California pure foods and drugs act was adopted:

"This regulation is for the guidance of employes, agents and inspectors of the California State Board of Health. Failure to comply with

its provisions shall not constitute a defense in any action brought for the violations of 'The California Pure Foods Act, March 11, 1907' or 'The California Pure Drugs Act, March 11, 1907.'"

Among other routine business transacted was the purchase of infant welfare literature, the discussion of legislation pertaining to local health districts and sanitary engineering, and the extension of periods of cold storage on goods found to be in good condition. The hearings of the alleged violations of the foods and drugs act followed.

BOOK REVIEWS

Radium, X-Rays and the Living Cell. With Physical Introduction. By Hector A. Colwell, M. B. and D. P. H., and Sidney Rnss, D. Sc. London: G. Bell & Sons, Ltd., 1915.

The book gives a thorough review of what is at present known of the effect of radium and X-rays on the living cell. This book is of value as a reference in the office of the specialist. The bibliography is good. It is not of sufficient interest to the general practitioner to warrant its purchase.

C. W. L.

1915 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 983 pages, 286 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

These collected papers are becoming so varied in type and so many in number that detailed review is no longer practicable. The salient feature of these later volumes from the Mayo Clinic is the large proportion of research work reported. This makes an evenly balanced output from this center of learning. Chapters devoted to the spleen, operations upon the gall ducts, shock and hemorrhage, streptococcus lesions, and empyema, are among the many that seem opportune and instructive.

S. T. P.

The Basis of Symptoms, the Principles of Clinical Pathology. By Dr. Ludolph Krehl. Authorized Translation from the 7th German Edition by Arthur Frederic Beifeld, with introduction by A. W. Hewlett. 3rd American Edition. Philadelphia and London: J. B. Lippincott Company. Price, \$5.00.

This is the third American edition of Krehl's Principles of Clinical Pathology but under a new title. It has had some seven German editions and has been translated into several languages.

This edition has added studies devoted to the cardiac arrhythmias, leukemias and pseudo-leukemias, anaphylaxis, complement fixation, chemotherapy, phenomena of gastric secretion and motility, renal functional tests, the role of incoagulable nitrogen; and newer studies concerning the glands of internal secretion, gout, diabetes, and fever. It also devotes a chapter to the important subjects of constitutional disease and diatheses.

Dr. Beifeld has inserted many notes indicative of the work done by Americans and not covered by Dr. Krehl.

Throughout the book the various symptoms and signs observed clinically are interpreted, in so far as is possible, from the viewpoint of disturbed physiology. A comprehensive comparison is made of the physical and chemical anomalies in disease and conditions as they are known in health.

Krehl's basis of symptoms is the ideal book for students and physicians to correlate the facts gotten from the practice of medicine, the physiology and the pathology.

J. H. C.

Eye, Ear, Nose and Throat. Edited by Casey A. Wood, Albert H. Andrews and Geo. E. Shambaugh. Volume III of Practical Medicine Series for 1916. Chicago, Year Book Publishers. 1916. Price, \$1.50.

The year book for 1916 keeps up its enviable reputation as the best and most practical survey of current eye, ear, nose and throat literature. This year's volume should interest the specialist of this State, because from year to year the amount of good scientific work done by the local men is on the increase. In the present volume articles by Blum, Green, Horn, McNaught, Pischel, Thomas and Wintermute are discussed. It is unfair to pick out any special article for discussion. Every phase of the special field is covered. On account of the war, the foreign literature is poorly represented.

H. H.

Encyclopedia Medica. Second Edition. Under the general editorship of J. W. Ballantyne, M. D., C. M. F. R. C. P. E. Vols. 1 and 2. New York: The Macmillan Company, 1915.

Your reviewer did not have the good fortune to be acquainted with the first edition of this work. The first two volumes (A—Asp and Asp—Chl) of the second edition have just appeared. He can state that it is the best English work of its kind with which he has come in contact. Encyclopedias are, as a rule, purely commercial ventures, and but little care is exercised in their compilation, but in the case of the books under discussion the publishers have been either careful or fortunate, or both, in the selection of the General Editor, J. W. Ballantyne. He has marshaled together in these two volumes short, but nevertheless fairly complete, articles presenting in good style the best British medical thought of the day. To each of the principal articles is appended a short bibliography. The illustrations are numerous and good. The paper and printing leave nothing to be desired. While your reviewer is not in favor of publications of this sort, and looked over the volumes with a well ingrained prejudice against them, he is compelled not only to admit, but to emphasize that the two volumes to hand are useful adjuncts to the book-shelves of any physician who has not access to a fairly complete library.

S. H.

The Intestinal Putrefactions. Clinical Studies of Enterocolitis. By Charles Fenner Peckham, M. D. Snow and Farnham Co., printers, 1916. Price, \$2.00.

The author rightly acknowledges the pre-eminent position in this field held by the classical works of Herter and of Schmidt and Strasburger, and it is doubtful if the present work brings a real additional contribution to what was already available. It is a readable book and has the merit of positive and exact exposition. How far this exposition succeeds in harmonizing clinical and laboratory experience is another question. The entire field of enterocolitis is arbitrarily divided into seven exact and clear-cut compartments and the reader closes the book with the feeling that every clinical case can and should be ticketed and filed in its exactly corresponding compartment. The important fact remains that our clinical cases do not practically admit of solution in this fashion and the reader is forced to the conclusion that this book gives a readable and theoretically admirable classification, but that clinical cases cannot be so definitely diagnosed and routinely treated.

In discussing the relation of diabetes to enterocolitis the author has added a new chapter to the etiological pathology of diabetes, due, apparently, to the fact that he starts with a preconceived

classification and a fixed determination of making all clinical types conform to it. As a cause of diabetes, enterocolitis may perhaps rank along with a luetic sclerosis of the pancreatic artery. The author in short runs into the easy error of exalting a certain syndrome into a common cause of varied and totally unrelated pathological entities. And to prove that he is positively wrong is just as difficult as to accept his proofs that he is right.

The book in short will serve a useful purpose in stimulating observation but does not seem likely to be of material clinical or experimental assistance.

A. C. R.

The Medical Clinics of Chicago. Volume II Number II (September 1916), Octavo 196 pages, 22 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Price, per year, Paper, \$8.00; Cloth, \$12.00.

Contents.

- Clinic of Dr. Chas. S. Williamson:
Case of acute miliary tuberculosis.
Case of syphilis of the liver.
- Clinic of Dr. Isaac M. Abt:
Feeding the normal baby with artificial foods.
Food preparations.
- Clinic of Dr. Ralph C. Hamil:
Unusual case of multiple sclerosis.
External ophthalmoplegia due to disease of the pons.
Presentation of a case of progressive muscular atrophy due to syphilis of anterior horn cells.
Case of beginning general paresis.
- Clinic of Dr. Frederick Tice:
Carcinoma of the head of the pancreas.
Chronic bronchitis, emphysema and marked cyanosis, etc.
- Clinic of Dr. Jos. Zeisler:
Etiology and treatment of acne.
- Clinic of Dr. Solomon Strouse:
Diabetes in the young.
Case of renal glycosuria.
- Clinic of Dr. Jos. C. Friedman:
Chronic diarrheas.
- Clinic of Dr. M. Milton Portis:
Syphilis of the stomach.
- Clinic of Dr. C. L. Mix:
Pleurisy and gastric spasm: morphin habit subsequent to lead colic.
Case of mycogenous leukemia.
- Clinic of Dr. Arthur F. Beifeld:
Differential diagnosis of a case with an enormous number of nucleated red cells in the circulating blood.

Skin and Venereal Diseases, Edited by O. S. Ormsby and J. H. Mitchell, and **Miscellaneous Topics**, Edited by H. N. Moyer. Practical Medicine Series, 1915, Vol. 9. Chicago: Year Book Publishers, 1915. Price, \$1.35.

The sections on both skin and venereal diseases have had a large amount of material added that has arisen through the war conditions that exist at present in Europe. Infestations and conditions of the skin due to such environmental factors as trench fighting, have presented en masse, cases that were hitherto rare, or even unnoted.

The venereal question has received added impetus, also, due to many causes. Trade conditions have stimulated the search for other arsenic compounds than the Ehrlich products. The Wassermann reaction has been studied more intensively than before and with a corresponding gain in its value from an interpretative point of view.

In the treatment of dermatoses the Coolidge tube receives a great deal of study and applica-

tion, with a corresponding widening of its field of application.

In the medical miscellany comprising the final chapter of this volume are a number of articles on medico-military, medico-social and kindred subjects that will be found quite worth the few minutes required to peruse them.

G. H. T.

The Control of Hunger in Health and Disease.
By Anton Julius Carlson, Chicago. University of Chicago Press, 1916. Price, \$2.00.

The physiology of hunger may not arouse our greatest interest when casually mentioned, but the phenomenon of appetite is the stimulus for one of the questions that the physician most frequently puts to a patient. We ask after the appetite with a nebulous feeling that it is an important index to the patient's general condition and an index to his metabolic status in particular. We are at a loss to curb the exaggerated appetite, and we are not sure that we can stimulate a decreased one. If the average well-read physician were asked "Why is, (or is not) a normal appetite present, in this case?" he would be at a loss for an answer. The same is true if he were asked as to the mechanics of the stomach during hunger and during satiety.

Professor Carlson has written an admirable monograph on hunger and, while it does not answer the above queries categorically, it does direct our attention to phenomena that have evaded our scrutiny too long. While much that is new, vital, and intensely interesting is included in his charmingly-written work, it is from the viewpoint of a stimulus to thought that his book must obtain its greatest and most real value.

After the medical aspirant has received his diploma as a sort of certificate of divorce from all the foundation sciences that go to make up the science of medicine, he roams the world, trying to bring the sick back to what he terms normal health. But his standards of normality are mighty elastic.

The reading of such a work as this, will bring the medical man back again to the realization that the phenomena of human physiology pass before him daily, and it needs only that he shall keep his mind attuned to the fine investigatory standard that obtained during his student days for him to delight in, and even add to, such studies as this one.

To return to the monograph under consideration: The studies of the stomach in hunger were carried on by means of thin rubber bags, first swallowed and then inflated. These were connected with registering manometers and the contractions studied by graphic methods. Next the relation of the nervous system to hunger was noted. The sensation tests were then carried out by direct means and the interesting conclusion was drawn that the sensations of heat and cold reside in the gastric mucosa. The study of the nervous control of hunger by means of sectioning the vagi and the splanchnics brought to light a number of rather novel facts. It was shown that the vagi control the hunger contractions by the maintenance of tonus. The section of the splanchnics seemed to relieve an inhibition of the hunger contractions.

The chapters on hunger and appetite in disease are especially full of material suggestive to the reader. In fact, an adequate review of this most stimulating work requires a complete abstract. So, rather than to spoil the story by disclosing the point, the writer prefers to recommend the book to the medical profession for the subject-matter it contains and, still more, for the stimulating example of the experimental method applied to one of the important elements in human physiology that it constitutes.

G. H. T.

Trachoma: Its Prevalence, Its Effects Upon Vision and the Methods of Control and Eradication. By Gordon L. Berry, Field Secretary National Committee for the Prevention of Blindness. December, 1915. New York: National Committee for the Prevention of Blindness.

This pamphlet of forty pages, issued by the National Committee for the Prevention of Blindness, is written in a style easily understood by the intelligent layman.

By the aid of illustrations and statistics, modes of infection, the appearance of the disease in its different stages, with the direful sequelae in untreated cases of trachoma are very forcibly made evident. Directions are given how to avoid the disease.

As trachoma is far more prevalent in California than most of us realize, this pamphlet should have a wide distribution amongst our teachers, social workers and visiting nurses. A. S. G.

The Mortality From Cancer Throughout the World. By Frederick L. Hoffman, LL.D., F.S.S., F.A.S.A., Statistician to the Prudential Insurance Company of America; Chairman Committee on Statistics, American Society for the Control of Cancer; Member American Association for Cancer Research; Associate Fellow American Medical Association; Associate Member American Academy of Medicine, etc., etc. Octavo 826 pages, 563 tables. The Prudential Press, Newark, New Jersey, 1916.

This volume, dedicated to the American Society for the Control of Cancer and to the American Association for Cancer Research, is one of the most exhaustive that has appeared on the subject of cancer statistics. The author's position eminently fits him to elaborate upon this subject and with the co-operation of the officers of the Federal Government a most complete array of statistics is presented for the physician and layman. The various etiological factors (irritation, trauma, etc.), are dealt with, as well as a rather comprehensive review of occupational influences. Statistics (Karl Pearson and others) show that the probability of an inheritance of a predisposition to cancer is relatively remote. The controversial subject of "cancer-houses," the importance of which has been emphasized by several scientists in England, lacks sufficient evidence statistically to be considered of importance. Numerous tumor classifications contribute to the completeness of the volume. Almost three-quarters of the space is occupied by charts and tables dealing with the morbidity and mortality in the various states and larger cities of this country, as well as the various foreign countries and their larger cities. The incidence of the disease as to age, sex and organ is also tabulated. The differences in prevalence of the disease in the various foreign countries are striking. Though doubtless this is explainable at least in part by differences in efficiency of registration. Striking differences are noted in our largest cities which may not be explained in this way. In some tables one notes references to sarcoma as well as carcinoma. The author has made recommendations to the American Gynecological Society for the National Control of Cancer and among these the most conspicuous are the necessity for organizing an American Society for the purpose of educating the public as to the importance of early operation, for the further study of occupational influences, for dietary studies, for coördinated work with the Department of Agriculture in studying the incidences of the disease in the lower animals and plants. The bibliography and index of authors and subjects appear quite complete in addition to frequent and copious footnotes. Among his concluding statements one notes "that practically all forms of cancer are on the increase" and

"that the evidence of cancer increase throughout the world is an incontrovertible statistical fact" and "that cancer frequency decreases with diminishing distances from the equator." Many statistical studies have called forth adverse criticism in the deductions drawn from certain angles of observation. This book for its comprehensiveness, conciseness and clearness of text and tables may be recommended to the student of the cancer problem. W. T. C.

Gynecology. By William P. Graves, M.D., F.A.C.S., Professor of Gynecology at Harvard Medical School. Octavo volume of 770 pages with 424 original illustrations, 66 of them in colors. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$7.00 net; Half Morocco, \$8.50 net.

The very first impression received on opening Graves' Gynecology is favorable and this impression is strengthened with the careful reading of the text and examination of the excellent, clear-cut halftone drawings. The lucid wording, not a sentence of which needs re-reading in order to interpret the author's meaning, demonstrates the well-trained clear thinker.

The first section is a very valuable addition to the subject of gynecology. It marks an innovation to the usual textbook. There are 135 pages devoted to the "Physiology and Relationship of Gynecology to the General Organism." In this present time where the tendency to specialize is so widespread and the student in his senior year is already selecting a specialty, this extensive introduction to gynecology tells better than so many words, the need of several years of general medicine before the mind should become concentrated upon a special line of medicine. The first section is indeed a most valuable part of the book.

The second part dealing with the general diseases of the pelvic organs is written in interesting form, due credit being given to the work of the German investigators. I mention this because occasionally one is startled to find that one of our American writers is apparently the author of what has taken 20 years or more for foreign scientists to build up.

The personality of the author is ever pleasingly present and the reader feels he is getting the result of one man's extensive experience and not an encyclopedia of facts with no key to the good or bad.

The last section, on surgery, is especially good for the student. Many of the cuts are original and excellent. There is just enough explanation to prepare the student to appreciate the operation. Value is given to the operation the author prefers and the discarded operations are happily not resurrected from the older books. The microscopical sections are attractive and of great value.

Altogether it would be difficult to suggest or find a better book for the student or a more delightful one for the general practitioner to peruse.

M. I. J.

The Treatment of Diabetes Mellitus, with Observations Upon the Disease Based Upon One Thousand Cases. By Elliott P. Joslin, M.D., Assistant Professor of Medicine, Harvard Medical School; Consulting Physician, Boston City Hospital; Collaborator to the Nutrition Laboratory of the Carnegie Institution of Washington, in Boston. Octavo, 440 pages, illustrated. Cloth, \$4.50, net. Lea & Febiger, publishers, Philadelphia and New York, 1916.

In diabetes, more than in any other chronic disease, there is a great need for close co-operation between physician and patient. All cases require, at least at the onset of treatment, the closest supervision of the patient by the medical adviser.

And even afterward, periods of close observation are essential to a successful course.

Joslin, with an experience gained in the handling of over 1,000 cases in this country, is well qualified to write on the treatment of diabetes, and his book is fully up to what we expected of him.

There are probably over one-half million diabetics in the United States, the majority of whom must necessarily be treated by the general practitioner. The author has, therefore, tried to make his book as simple and readable as possible, with the plan of treatment advised easy to follow.

There are six sections. I. Statistical Studies Upon the Course and Treatment. II. Important Factors in the Treatment. III. The Examination of the Urine, Blood and Respiration in Diabetes. IV. The Diet in Health and in Diabetes. V. Treatment. VI. Aids in the Practical Management of Diabetic Cases. VII. Foods and Their Composition.

Due to more accurate methods in clinical medicine, diabetes has been recognized more often of late years, hence its apparently greater frequency. What is more important, our methods of treatment have been and are still improving, and it is to educate the profession to this realization that the book is really written.

Much of its contents has been previously published in some form or other by Joslin, himself. Due credit is given Allen for his work, which taught in the main that prolonged starving was not harmful but beneficial to diabetics, and that the dangers of so-called vegetable days and starvation days as formerly used were due to the large amounts of fat given; that its reduction avoids acidosis. Also that starvation safely shortens the period of glycosuria, and thus the work of the physician, also often the stay in hospital.

The best feature in Joslin's book is the care bestowed in faithfully giving all the details of diet employed. A careful perusal should give the average practitioner a clear conception of what is expected of him. It should, however, teach him that much detail is necessary in his treatment of a diabetic and that his duty is not done when he tells him "eat of this list" and "avoid the following." Too often do we see this done, and only too often do we hear the unfortunate statement made by physicians, that small percentages of sugar in the urine do no harm, whereas strenuous dieting does injure the patient. We know the first statement to be untrue; the latter should only reflect upon the maker of the assertion.

Joslin's book should prove a mine of information to the average practitioner. Taken in connection with the very practical book of recipes of Hill and Eckman, it should enable any practitioner to work out the treatment of any case in a manner not only scientific, but full of interest and enjoyment to himself and patients. R. B.

The Kinetic Drive; Its Phenomena and Control.

By George W. Crile, M.D., Professor of Surgery at the Western Reserve University. Octavo of 71 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$2.00 net.

This book is an epitome of a monograph which Dr. Crile has in preparation, and in which he will offer the complete experimental evidence upon which the following themes are founded.

Since the author states that the attitude he has assumed is unwarranted, and awaiting the completed work before looking at this book from too critical a viewpoint,—the following will simply indicate Crile's theme:

Man is an automaton whose primary work is energy transformation and he has a certain set of organs that concern themselves with this transformation, and which during sleep store up energy

"Kineticization" is the process of transformation of potential into kinetic energy, and when the process is speeded up considerably there results what Crile terms the kinetic drive.

The mechanism of kineticization is essentially as follows: The blood being alkaline, its hemoglobin receives oxygen in the lungs and carries it to the brain, where, as the result of the union of oxygen and adrenin and brain cell substance there originate impulses probably identical with electricity. The ability to give out these impulses constitutes the "driving force of the brain," and when the latter is stimulated, in a normal manner, as in a demand for work in walking, etc., impulses are started along pathways in both the central nervous system and the autonomic nervous system, and so reach all the tissues. Certain of the impulses through the autonomic reach the thyroid and the adrenals. The thyroid, thus stimulated, manufactures more iodothyron and the latter by virtue of its iodine content increases the permeability of all the tissues for electricity, so the driving force of the brain has less resistance and will produce greater response to a given stimulus. Likewise the adrenals secrete more adrenin, and the latter enhances the action of the brain driving center and it in turn causes greater production of adrenin—also the small amounts of adrenin present in the body are made the more efficient because of the action of iodothyron mentioned above.

The impulses of brain over the voluntary nerve tracts are sent through more specific areas of the brain and thence to the muscles where they make the final transformation of the energy specific, e. g., for running, fighting, heat production, etc. In the transformation there is a production of acid by-products; the gaseous portion of the latter being excreted through the lung, while the other portions are broken down by the liver into substances which can be eliminated by the kidneys.

This is a picture of the "physiological kineticization" but in the excess kineticization or "drive" there is found a pathological process.

Here the drive is initiated through what Crile is pleased to term contact, distance and chemical ceptors: the contact ceptors reacting to cold, heat and physical injury; the distance ceptors to written and spoken language and to sight and smell; and the chemical ceptors to toxins arising in the course of infection, autointoxication, pregnancy, after food excess, in poisoning, insomnia, excessive exertion and intense emotion. Under the excess of stimulation the brain is driven harder; there is more iodothyron—so more tissue permeability to electricity; more adrenin—so, again more activity of driving center of brain, and in addition symptoms and signs of excessive stimulation of the sympathetic—heart rate and force increased, thirst, perspiration, etc.; increased muscular activity—so increase in acid by-products and increased acidity of urine; and finally fatigue and exhaustion.

In addition, the organs begin to show real pathology and Crile gives numerous cuts to show identical pathological change regardless of the nature of the initiator of the drive. He pictures characteristic changes in brain, liver, adrenals, etc.; change in glycogen content of liver and muscles; increased production of adrenin; hyperplasia and increase in iodine content of thyroid; increased acidity of the urine, etc.

He correlates the symptomatology of Grave's disease, certain cardio-vascular and nephritic cases and of diabetes with a whipped up drive.

His considerations of the control of the drive are interesting and important. He would use, in some cases, opiates to control rate of transformation in response to any stimulus; morphine to prevent mobilization of adrenin; morphine and nitrous oxide to block energy transformation and prevent histological changes; alkalies to supply rapidly increasing deficiency of neutralizing bases.

He will offer experimental and laboratory proof of these tenets. He would educate away the emotional initiators of drive. Surgery in appropriate cases can break the connection between brain and thyroid or adrenals by excision of a portion of either—or cervical sympathetic may be divided. But when one removes a part of the kinetic system, he starts to de-kineticize the individual, diminishes his power for work, his response to the various stimuli, decreases excretion of acid by-products and raises sugar tolerance!

This book is of vital importance for one reason if for no other and that is, it offers further proofs that emotions alone can cause real and identical pathology to that initiated by infection, intoxication, etc., and Crile suggests that christian science or any other means of removing these "emotional stimuli" may well have left a body at least a little better able to fight the sum total of other stimuli.

J. H. C.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Solution of Hypophysis-Squibb.—A sterilized, aqueous solution of the water-soluble active principles of the posterior lobe of the pituitary bodies of cattle, free from chemical preservatives and physiologically standardized. It has the properties of the pituitary gland, as described in New and Nonofficial Remedies, 1916. E. R. Squibb and Sons, New York. (Jour. A. M. A., Sept. 2, 1916, p. 745.)

Benzidine.—In medical practice benzidine is used for the detection of occult blood. In the presence of hydrogen peroxid and acetic acid, benzidine is changed to a deep purple compound by the action of blood. The test is said to detect blood in a dilution of 1 in 300,000.

Benzidine-Merck (for Blood Test).—This complies with the standards prescribed for benzidine, N. N. R. Merck & Co., New York. (Jour. A. M. A., Sept. 16, 1916, p. 879.)

Occult Blood Test (Dudley Roberts).—This consists of tablets each containing 5 grains of a trituration of benzidine, 1 part, and sodium perborate, 20 parts, and glacial acetic acid (supplied in boxes containing 100 tablets in vials, and a bottle of glacial acetic acid). A tablet is treated with a weak solution of the material to be tested and a drop of acetic acid added, a greenish blue color indicates the presence of blood. E. R. Squibb and Sons, New York. (Jour. A. M. A., Sept. 16, 1916, p. 879.)

Mercurial Oil.—A mixture containing from 40 to 50 per cent. of metallic mercury in an oily base. The mercury is in a finely divided state and of a consistence which permits its intramuscular injection by means of a proper syringe at room temperature. The degree of subdivision of the mercury should be indicated for each brand of this product. Mercurial oil is used as a means of obtaining the systemic effects of mercury. Cumulative effects should be carefully watched for.

Mercurial Oil-National Pathological Laboratory.—A mixture of equal weights of mercury and lanolin obtained by triturating the constituents until mercury globules are no longer macroscopically visible. It is marketed in graduated syringes ready for use and containing 2 Cc. National Pathological Laboratories, Chicago. (Jour. A. M. A., Sept. 23, 1916, p. 953.)

Liquid Petrolatum-Squibb, Heavy (Californian).—It is made from Californian petroleum and is claimed to be composed chiefly of hydrocarbons of the naphthene series. A brand of liquid petrolatum complying with the U. S. P. standards for liquid petrolatum and claimed to be superior to liquid petrolatum, U. S. P. E. R. Squibb and Sons, New York. (Jour. A. M. A., Sept. 23, 1916, p. 953.)

Thromboplastin-Squibb.—A solution of brain extract complying with the standards for solution brain extract, N. N. R. It is marketed in 20 Cc. vials. E. R. Squibb and Sons, New York. (Jour. A. M. A., Sept. 23, 1916, p. 953.)

Chlorazene.—Chlorazene (sodium para-toluenesulphochloramine) is an active germicide acting much like hypochlorites, but being less irritating. Like the hypochlorites it has the advantage over mercuric chloride, zinc chloride, etc., in that it does not coagulate or precipitate proteins, such as blood serum. Chlorazene is reported to be practically non-toxic. The Abbott Laboratories, Chicago, Ill. (Jour. A. M. A., Sept. 30, 1916, p. 1021.)

ITEMS OF INTEREST.

The U. S. Pharmacopoeia, IX.—The ninth revision of the U. S. Pharmacopoeia became official Sept. 1, 1916. It is a book of standards for drugs, but it is not a book of standard drugs. The pharmacopoeia includes substances which have been shown to be inert like the hypophosphites, complex and obsolete mixtures like the compound syrup of sarsaparilla, and drugs which have been tried and found wanting like saw palmetto berries. There is one great advantage in specifying U. S. P. preparations: to do so, is to invoke legal standards of identity and purity. The only way to be sure of obtaining substances of therapeutic efficiency, however, is to exercise discrimination; the pharmacopoeia is no guide to therapeutically valuable drugs. (Jour. A. M. A., Sept. 2, 1916, p. 750.)

The New National Formulary.—The National Formulary, 4th edition, becomes official September 1. It is published by the American Pharmaceutical Association. The preface says frankly: "The scope of the present National Formulary is the same as in previous issues, and is based on medical usage rather than on therapeutic ideals. The committee consists entirely of pharmacists, or of men with a pharmaceutical training, and it cannot presume either to judge therapeutic practice or follow any particular school of therapeutic practice. The question of the addition or deletion of any formula was judged on the basis of its use by physicians and its pharmaceutical soundness. The considerable use by physicians of any preparation was considered sufficient warrant for the inclusion of its formula in the book, and a negligible or diminishing use as justifying its exclusion." The National Formulary contains a large number of formulas for preparations which in the main are complex and superfluous. From the pharmacist's point of view, the book is a valuable one. Physicians who have a scientific training in the pharmacology of drugs will not want it; others will be better off without the temptations offered by its many irrational formulas. (Jour. A. M. A., Sept. 2, 1916, p. 764.)

The Hypophosphite Fallacy.—The Council on Pharmacy and Chemistry reports that the introduction of hypophosphites into medicine was due to an erroneous and now discarded theory as to

the cause of tuberculosis and the properties of the hypophosphites. After a review of the literature and in view of experimental work the Council concludes that there is no warrant for the use of hypophosphites in medicine, unless it be to secure the calcium effect from calcium hypophosphite and the ammonium action of ammonium hypophosphite. The Council reviews the claims made for the following and declares them ineligible for New and Nonofficial Remedies: Fellows' Syrup of Hypophosphites, Fellows Medical Mfg. Co., Syrupus Roborans (Syrup Hypophosphites Comp. with Quinin, Strychnin and Manganese), Arthur Peter and Co., Schlotterbeck's Solution Hypophosphites of Lime and Soda (Liq. Hypophosphitum, Schlotterbeck's), The Schlotterbeck and Foss Co., Robinson's Hypophosphites, Robinson-Pettet Company, Eupaptic Hypophosphites, Nelson, Baker & Co., McArthur's Syrup of the Hypophosphites Comp. (Lime and Soda), The McArthur Hypophosphite Co. Though in general no therapeutic claims so far as the hypophosphites are concerned are made for the following, the Council held their use irrational and directed their omission from New and Nonofficial Remedies which now describes them: Borchardt's Malt Olive with Hypophosphites, Maltzyme with Hypophosphites, Maltine with Hypophosphites and Maltine with Olive Oil and Hypophosphites. (Jour. A. M. A., Sept. 2, 1916, p. 760.)

The Therapeutic Value of the Glycerophosphates.—In view of the very convincing evidence that the glycerophosphates do not possess the therapeutic properties attributed to them and are not superior to ordinary phosphates, the Council on Pharmacy and Chemistry examined the following proprietary glycerophosphate preparations: Tonols (Schering and Glatz) comprising Iron, Lime, Lithium, Magnesium, Manganese, Potassium, Quinine, Sodium, and Strychnine "Tonols," Duotonol Tablets, Triotonol Tablets, Quantonol Tablets, Sextonol Tablets, Phosphorcin Compound (Eimer and Amend), Robinol (John Wyeth and Bro.), Phosphoglycerate of Lime (Fougera and Co.), Elixir Glycerophosphates, Nux Vomica and Damiana (Sharp and Dohme). The Council reports that unwarranted therapeutic claims are made for all of these preparations. In addition the composition of Robinol and Elixir Glycerophosphate, Nux Vomica and Damiana is semi-secret, and Tonols, Phosphorcin Compound, and Robinol bear objectionable names. (Jour. A. M. A., Sept. 30, 1916, p. 1033.)

Arsenobenzol and Diarsenol.—The Council on Pharmacy and Chemistry reports that it found Arsenobenzol, made by the Dermatological Research Laboratories, Philadelphia Polyclinic, Philadelphia, and Diarsenol made by the Synthetic Drug Company, Toronto, Canada, substantially identical with salvarsan in composition, and equal to salvarsan in therapeutic efficiency. The Council reports that these products have not been admitted to New and Nonofficial Remedies because there is a doubt as to the legality of their sale in the United States. But for this doubt as to their legal status, both products would be entirely eligible to N. N. R. (Jour. A. M. A., Sept. 16, 1916, p. 879.)

Secretogen.—The Council on Pharmacy and Chemistry has reported that commercial secretin preparations examined (Secretogen and Duodenin) contained no secretin and also that secretin is inert when given by mouth. While practically admitting the correctness of the Council's findings, the manufacturer of Secretogen (The G. W. Carnrick Co.) in a letter to the Council sets forth the company's claims for Secretogen on a new and altogether improbable basis. Since the arguments are purely speculative, the Council reaffirms its previous action declaring this preparation ineligible for New and Nonofficial Remedies (Jour. A. M. A., Sept. 9, 1916, p. 828.)

Glyco-Thymoline and Poliomyelitis.—The manufacturers of Glyco-Thymoline are circularizing physicians, advising dependence on Glyco-Thymoline as a preventive against poliomyelitis. A report of the Council on Pharmacy and Chemistry pointed out that this preparation is simply a weak antiseptic, so feeble that even in full strength it does not kill *Staphylococcus aureus* in four hours and is of little, if any, greater therapeutic value than sterile salt solution (Jour. A. M. A., Sept. 16, 1916, p. 895.)

SOCIAL INSURANCE COUNTY COMMITTEES.

Alameda County—Dr. H. S. Delamere, chairman; Dr. F. H. Bowles, Dr. H. A. Makinson.

Butte County—Dr. Edw. E. Baumeister, Dr. N. T. Enloe, Dr. J. O. Chiapella.

Los Angeles County—Dr. Wm. Wenzlick, chairman; Dr. J. Ross Moore and Dr. T. Percival Gerson.

Mendocino County—Dr. L. C. Gregory, Dr. Oswald H. Beckman, Dr. H. O. Cleland, Dr. S. L. Rea, Dr. E. H. Sawyer.

Stanislaus County—Dr. B. F. Surryhne, Dr. F. R. Delappe, Dr. E. V. Falk.

Sacramento County—Dr. E. M. Wilder, chairman; W. A. Beattie and J. P. Dillon.

San Bernardino County—Dr. G. G. Moseley, Dr. Carroll C. Davis, Dr. C. G. Hilliard.

San Diego County—Dr. Homer C. Oatman, Dr. R. J. Pickard, Dr. Harry Wegefath, Dr. P. M. Carrington, Dr. R. L. Doig.

San Francisco County—Dr. John H. Graves, chairman; Drs. Rene Bine, F. W. Birtch, F. B. Carpenter, A. W. Hewlett, T. W. Huntington, J. H. O'Connor, Langley Porter.

Orange County—Dr. H. M. Robertson, Dr. J. I. Clark, Dr. A. M. Weedie.

Santa Cruz County—Dr. J. M. Gates, Dr. Keck, Dr. E. E. Porter.

Sonoma County—R. M. Bonar, J. W. Cline, N. R. H. Juell.

Tulare County—A. W. Preston, J. T. Melvin, R. N. Fuller.

Ventura County—Dr. D. W. Mott, Dr. C. A. Jensen, Dr. B. E. Merrill, Dr. H. B. Osborn.

These are all the counties reported to date, October 18th.

Committee on State Industrial Accident Laws.

Los Angeles County—Dr. Wm. R. Moloney, chairman; Dr. E. H. Southworth and Dr. C. P. Thomas.

ARMY MEDICAL CORPS EXAMINATION.

The Surgeon General of the Army announces that preliminary examination for appointment of first lieutenants in the Army Medical Corps will be held early in January, 1917, at points to be hereafter designated.

Full information concerning this examination can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, between 22 and 32 years of age at time of receiving commission in Medical Corps, a graduate of a medical school legally authorized to confer the degree of Doctor of Medicine, of good moral character and habits, and shall have had at least one year's hospital training as an interne, after graduation. Applicants who are serving this post-graduate internship and can complete same before October 1, 1917, can take the January examination. The examination will be held simultaneously throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examination, applications should be for-

warded without delay to the Surgeon General of the Army.

There are at present two hundred and twenty-eight vacancies in the Medical Corps of the Army.

DENTAL PREPAREDNESS.

What is the most important attribute of a soldier?

Good feet? No.

Good eyesight? No.

Good brains? No.

What then? Good teeth.

A soldier may have good feet, good eyesight, and good brains, but if he has bad teeth, he can't eat. If he can't eat he can't march near enough to the enemy to see him and use his brains to fight him.

How does a soldier get good teeth? By having good teeth in childhood.

How do children keep good teeth? Through being taught by their mother how to keep their teeth clean and having their teeth looked after while they are growing. This makes good teeth for future soldiers.

It would seem, then, as though the first patriotic duty of a mother was to keep her children's teeth in good condition. It is.

LECTURES ON MEDICAL PREPAREDNESS given in the Library of the San Francisco County Medical Society every Thursday at 4:45 p. m.

Thursday, November 2nd, 1916, 4:45 P. M.

13. Map Reading and Military Tactics. Captain Morrison C. Stayer, Medical Corps, U. S. Army.

Synopsis: By map reading we mean not only the ability to grasp at a glance the general features of a map, but to form a clear conception or mental picture of the appearance of the ground represented by the map. This involves the ability to convert map distances instantly to the corresponding ground distances; to get a correct idea of the network of streams, roads, heights, slopes and all forms of military cover and obstacles. We will discuss: scale of maps; differences of elevation; contours; hachures; directions on maps; orientation of a map; true meridian; conventional signs; visibility.

Thursday, November 9th, 4:45 P. M.

10. The Sanitary Service of War and the Demobilization Period. Captain Ralph G. DeVoe, Medical Corps, U. S. Army.

Synopsis: Examination of individual soldiers, physical, mental, laboratory, modified by field conditions and requirements of active service. Prophylactic treatment of smallpox and typhoid under like conditions. Influence of war on incidence of venereal disease. Communicable diseases as seen in war time; typhoid, typhus, cholera, meningitis, dysentery; facilities available in the field for diagnosis and isolation. Water supply in active service, in camps, semi-permanent and permanent; on the march. The demobilization period: precautions to avoid infection of civil population by returning soldiers; care of permanently disabled; pension records.

Thursday, November 16th, 1916, 4:45 P. M.

11. Wounds in War and Their Treatment. Major John W. Hanner, Medical Corps, U. S. Army.

Synopsis: Wound-dealing missiles in modern warfare; small arms bullets, shrapnel, high explosive shells, grenades, bombs, aeroplane darts. Characteristics of wounds inflicted by various projectiles; infection. General treatment of wounds. Treatment of regional wounds. After treatment.

Thursday, November 23, 1916, 4:45 P. M.

12. The Army Ration and the Principles of Cooking in the Field. Colonel Charles R. Krauthoff, Quartermaster Corps, U. S. Army.

Synopsis: Definition; varieties—garrison, travel, reserve, field, emergency, haversack, etc.; components and substitutes; the baking of bread in the field; cooking apparatus; management of the field kitchen; the feeding of the sick in field hospitals; the mess kit; individual cooking; liquid coffee; ration supply in the field.

Wednesday, November 29th, 1916, 4:45 P. M.

9. Camp Sites, Field Sanitation and Camping Expedients. Lieut.-Colonel Frank B. Cheatham, Quartermaster Corps, U. S. Army.

Synopsis: A typical arrangement of organizations in camp; effect of soil and environment; different methods employed in disposal of waste; water supply and some of the precautions to be taken. Cooking with field equipment.

NEW MEMBERS.

Coy, Louis Milton, San Bernardino.
McNeil, Warren T., Stockton.
Bacon, D. N., Pomona.
Norton, C. W., Los Angeles.
Utley, J. H., Los Angeles.
Foote, Chas. G., Long Beach.
Henry, W. O., Los Angeles.
Holt, Rufus A., Los Angeles.
Magee, I. L., Venice.
Metcalfe, Julia T., Los Angeles.
Rand, Carl W., Los Angeles.
Rice, H. W., Los Angeles.
Riggin, L. Lore, Pasadena.
Dunham, Ira B., Brawley.
Dunlap, Frank, Brawley.
Walters, Ethel Madeline, San Francisco.
Keating, John J., San Francisco.
Kerr, W. J., Sebastopol.
Gibson, Arthur Collis, San Francisco.
Swearingen, A. Wm., San Diego.
Six, C. S., Stockton.
Hutchings, Robt. K., San Francisco.
Frary, Louis A., Oakland.
Klingerman, Geo. E., Sanitarium.
Schroeter, Oscar V., Los Angeles.
Zorb, Geo. A., Los Angeles.
McNeile, Lyle G., Los Angeles.
McNeile, Olga, Los Angeles.
Smalley, C. A., Los Angeles.
Herbert, Henry, Los Angeles.
Reeng, Jos. D., San Francisco.
Lemon, Carrie M. J., San Jose.

DEATHS.

Sutton, Irwin Coleman, Los Angeles.
Barney, H. U., Napa.
Mason, Daniel Newton, Suisun.
McKay, Winfield S., San Diego.
Rubin, Barney (died in Kansas City).
Smith, Robert Bremmer, Pinole.
McMurtry, Milton, Sr., Clovis.
Dunn, Eugene C., Fresno.

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor
PUBLICATION COMMITTEE

Harry E. Alderson, M. D.

René Blin, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - -

Butler Building,

State Journal, - - -

San Francisco.

Official Register, - - -

Telephone Douglas 62

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV DECEMBER, 1916

No. 12

At noon on November 27th, Dr. Philip Mills Jones, Editor of the "California State Journal of Medicine" and Secretary of the Medical Society of the State of California, died of pneumonia at his home in San Francisco.

His unique position as a leader of the organized profession of the State of California will make his loss well-nigh irreparable, and his death will be a great shock to the innumerable physicians throughout the State whom he has befriended both in his individual and his official capacity.

Owing to the lateness of the date, an extended notice of Dr. Jones' life and activities must be postponed until a later issue.

EDITORIAL NOTES

IMPORTANT NOTICE

The Committee on Scientific Program wish to announce that so many applications for places on the program have been received that no further papers can be considered unless a vacancy hereafter occurs. Those whose papers have already been accepted are again reminded that there must be in the hands of the Committee, not later than January 1st, 1917, the full title of their paper with abstract. Any one failing to comply with these regulations will be automatically dropped from the program.

MALPRACTISE INDEMNITY FUND.

Are you one of the 2220 members of the Society who have intended to contribute to the fund, or are going to do so, or are thinking about it but have not done so? If you are one of this class, you had better send your check for \$15.00 and your note for like amount, payable one year after date, immediately.

INDEMNITY FUND.

The correspondence which has developed since the announcement of the creation of the Malpractice Indemnity Fund has been very voluminous. Practically without exception, every one who has written to the secretary has approved the plan.

One man writes as follows: "Happy is the man that has never been sued or threatened with a suit, but the fateful day may come to any physician, and we had better all stand together to take care of ourselves when we have such a good chance as now is offered."

The writer of the letter is perfectly correct. If the physicians of this State do not cooperate amongst themselves for their own protection, they will very soon be in exceedingly bad case. Suits for damages for alleged malpractice are steadily increasing and, as was recorded in last month's JOURNAL, occasionally one goes against the physician. There should be at least 1000 members of the State Society with sufficient intelligence and business sense to take advantage of a plan whereby they absolutely protect themselves at a small cost and without any overhead charges against their investment. There are no dividends to pay; there is nothing to pay out of the fund except the actual cost of settlements. Doubtless there are hundreds of doctors, members of this society, who would cheerfully be inveigled into buying some wildcat oil stock, but who will deliberate for days or weeks before investing the small sum of \$15.00 for their own protection.

AGAIN THE INDEMNITY FUND.

A member who transmits his check and note as a contribution to this fund, raises the question as to whether there would be any objection to a member also carrying insurance, and whether it would be of any value. There certainly can be no objection. It would be of value only to this extent, that it would conserve the fund; because, firstly, if such a member was sued, the insurance company would have to bear the expenses of the suit, though our attorneys might cooperate in the actual trial if it were necessary; secondly, if a judgment went against the member, the insurance company would have to pay up to the amount of the policy, thus conserving the fund of our own members in our own hands.

ABOUT INCOMES.

One gentleman and member of our society, who sent in a postcard with the information as nearly as he could give it, also sent a letter which is so sound and reasonable that we are almost tempted to publish his name. However, as his permission has not been secured, the name is omitted, but the letter follows:

"Oct. 28, 1916.

"Dear Doctor:

"In answer to your favor with postal card enclosed to fill out, would state that I am in a farming district where it is somewhat difficult to

come at one's income and a man working for wages gets very little indeed.

"Nearly every farmer has an automobile, but if the truth was known very few of them are paid for, so that the doctor has to wait a long time for his money at times.

"I have my office built in one corner of my yard so have no direct rent to pay; as to practise, it is certainly general and includes everything, and I must know everything which can possibly accrue.

"I drive a Ford car and buy a new one every year, turning old one in for close to two hundred dollars less than the new car costs.

"Between gas, oil, and repairs, my car costs me close to fifty dollars per month, but naturally I live in it.

"It is a hard scratch to make ends meet and keep bills paid up, and we are never able to take a vacation and feel that we are able to afford it.

"I seem to be rather favored, if anything, in the way of a location and seem to be doing about as well as the others around me.

"What I feel worse about is the lack of professional courtesy or the absolute dishonesty among the men of the profession with whom I come in contact.

"One can hardly have a consultation nowadays without losing the patient if that patient happens to be a desirable one and the other fellow can work the game.

"And it is not the irregulars entirely either, nor does the fact of both being members of the county medical society tend to protect you.

"It is a Utopian dream, of course, to expect perfection, but if the members of the profession would only practise decent honesty with their patients and other members there would be no need of a millennium, for that would indeed be Utopia sufficient for most of us.

"I believe that were the profession honest and sincere, there would be sufficient practise for everybody and more money.

"Faternally yours."

SOCIAL INSURANCE COMMISSION.

The circular letter and postcard asking for information as to physicians' incomes, which were sent out the latter part of October, have produced a very interesting group of replies. A gratifyingly large number of physicians in the State, both members and non-members, could see the reason for this and have sent in as nearly accurate figures as they could. A very large number have also written letters explaining the circumstances and surroundings in which they live and practise. It is rather an unpleasant task to say, however, that some presumably dignified and gentlemanly members of the medical profession have seen fit to write the most insulting messages on the postcards, in one or two cases descending to a degree of vulgarity and filth which necessitated sending the postcard in a sealed envelope. It is difficult to understand the type of mind that can descend to a thing of this sort, or fail to realize or understand the import of a move-

ment directly intended for the benefit of the whole profession.

MERRY CHRISTMAS!

Perchance and peradventure this Merry Christmas greeting comes a little ahead of time, but nevertheless may it be taken and held to the 25th of the month before due acceptance.

These are strange days and strange times. Conditions are varying and changing almost with each passing day. Let us, however, in saying goodbye to the year, look forward to the next one with courage, all thankful that we are alive, and still more thankful to a divine providence that we live in California. Again, Merry Christmas!

NEEDED REFORM OF COUNTY SOCIETIES.

At the present time the practise of medicine is undergoing rapid changes of such a nature and degree as to rouse the profession to serious contemplation of the problems at issue and cause a feeling of unrest and uncertainty in regard to the future. Such a critical juncture in the professional situation may be viewed with equanimity and perhaps a brightened hope by those who labor under the protecting wing of an institution or a limited organization. Unfortunately, however, the great mass of independent practitioners must feel the force of this insidiously growing current, fearing that eventually their individual efforts to secure justice to themselves must fail them.

There has never been in the history of the State Society a more imperative need for the effective organization and consolidation of the mass of the profession than at the present time. But the State Society labors under a serious disadvantage insofar as its strength is the collective strength of its component county societies. These as the ultimate units must develop greater force and effectiveness in order to aid the State organization, if it is to secure a just regard for the reasonable demands of its members whether before the general public or its representatives.

The time is therefore opportune for enlarging the activities of the county organization. While heretofore these activities have been devoted largely to academic purposes, as long as they are limited to this field they do not afford that opportunity for closer cooperation and consciousness of purpose that is needed by the medical profession.

To remedy this deficiency the policy of a county society must extend beyond the scientific program and the library, however attractive. The county society should encourage a spirit of free association among its members. It should formulate plans tending to increase sociability and provide facilities having this end in view. Societies have been too indifferent in the matter of securing new and desirable members and they should make every effort to increase membership. Above all they need leaders of clear insight and in close sympathy with the body of the profession and the movements that affect it, men of marked executive ability whose utterances and unstinted, disinterest-

ed activities command attention, respect and confidence, while they carry conviction and actuate others.

SAD BUT TRUE.

Many times during the last eight years has this JOURNAL commented on the fact that the careless utterances of physicians very frequently resulted in damage suits. Occasionally, too, we have referred to the fact that a physician, without knowing all the circumstances and conditions of a case, will express an emphatic opinion. Somehow or other physicians, though their whole lives are spent in contact with patients, cannot seem to realize that nothing is so unreliable as a patient's statement of what some other doctor did. There is nothing more dangerous than one can readily think of than accepting the opinion of a patient or a layman as to the condition of the patient or what other doctors have done in the way of previous treatment or operations. In direct connection with this is the following matter from a member of the Society who has recently been sued:

"The attorney who is representing the plaintiffs has remarked on numerous occasions that they had an expert who was going to rip me to shreds. I have recently found out who this man is. He is Dr. W. S. P. I noticed in the American Medical Directory that he is a member of the Association and, of course, of the State Society. While I would not expect a medical man to have his judgment biased by the fact that he is a member of the same association that I am and therefore should not testify against me, still I feel that before beginning his ripping process he should have had a scientific rather than a lay history of the circumstances before he so readily formed his judgment. This he has not done.

"This brings to my mind a point which I believe would make a good editorial for the JOURNAL, and that is that we are very apt to limit our ethical conduct by geographical boundaries. How often it is that we carelessly and freely criticize to a patient the treatment that has been administered by some doctor in another locality which we would not think of doing if that doctor were in our own town. This point has presented itself to me on a number of occasions and I feel that our ethics should be broad enough to cover a larger area than our own immediate vicinity. If this Dr. P. were practising in my city, he undoubtedly would have communicated with me for details of this case before taking so antagonistic an attitude.

MEDICINE AND SOCIOLOGY.

A very kindly correspondent writes and, commenting upon the statement made in a recent issue that "few medical men are students of sociology," asks why the JOURNAL does not publish more comment on this subject. There has hardly been an issue of the JOURNAL for five years that has not contained some editorial note

referring to one or more points where medicine and sociology come in close touch. It may not be always apparent, but the fact is there. For instance, a careful reader of this issue of the JOURNAL will find quite a few things referring to the sociologic changes which are going on in the medical profession.

INDUSTRIAL ACCIDENT INSURANCE.

One day a letter is received from some one who roundly condemns the whole principle of industrial accident insurance, says that it is all wrong, and cries aloud that it is an outrage to the medical profession. The next day comes a letter something like this, from a member of the Society in one of the smaller towns in the State:

"Now regarding accident insurance, I personally like it. I wish there was more of it. I get a fair fee now, always, for accident work, while heretofore I was lucky to receive compensation for my services at all. I am therefore in favor of the contemplated sickness insurance. One can conduct himself as a gentleman always, and really professional ethics, boiled down, means merely being a gentleman at all times. Sickness insurance is going to be a good thing and will have a tendency to do away with lodge practise evils."

This is somewhat different from the views expressed in the last issue of the JOURNAL by several gentlemen who discussed this question. It is a large and open question and there is plenty of room for a diversity of opinion.

THE EMANUEL MOVEMENT AND THE LAW.

A circular has been sent out by the Emanuel Institute of Health, Incorporated, Reverend Thomas Parker Boyd, Dean, which refers to the fact that the Reverend Thomas Parker Boyd, head of the Emanuel Institute of Health, was arrested for violating the law regulating the practise of medicine in this State. He certainly was. He certainly should have been. From the personal experience of one well known to the writer, one of the reverend gentlemen connected with the Emanuel Movement seemed to devote most of his time to holding the hand of his fair patient, and invariably insisted upon \$2.50 for each such holding. The Reverend Thomas Parker Boyd, arrested for breaking the law, in his circular (or the circular emanating from the Emanuel Institute of Health, Incorporated) seems to be highly indignant, not to say belligerent. The circular announces in stentorian tones that this case is to be made a test case, is to be fought in the courts with all the strength, religious and financial, of the Emanuel Institute of Health, Incorporated, and in modest terms it says: "It may need to go to the Supreme Court of the United States, which will involve much time and expense." This probably means that the rate for holding ladies' hands will have to be raised.

STUPIDITY.

As a rule, anonymous communications received in this office are promptly dropped in the wastebasket and no attention is paid to them. However, we will make this a special case and comment on the note which a member of the Society sent in, written on the back of the circular letter which accompanied the postcard asking for information in regard to incomes.

He says: "This, it is apparent to me, is an excellent method by which the Federal authorities may ascertain the amount of the physician's income, thereby giving them a fine chance to collect an income tax from us, and I believe physicians are poor enough already."

In the first place, it was definitely announced on the authority of the Medical Society of the State of California, that the information sent in would be confidential.

In the second place, there is nothing on the postcard by which the identity of the one who fills it out can be determined.

In the third place, if a physician's income is such as to be included under the law of the income tax and he conceals that fact, he confesses himself to be a deliberate thief.

The editor sincerely trusts that the writer of this anonymous letter may read these words and recognize himself as either a fool, a liar, or a thief.

INVESTIGATION OF TRAINING SCHOOLS.

Within the last two or three years, a considerable amount of attention has been directed toward the investigation of hospitals and the training of nurses. In this State, the State Board of Health, through its Nurses' Bureau, has undertaken to do a certain amount of work. As a result of this activity, the following is part of some resolutions passed by the Humboldt County Medical Society,* and gives food for thought:

"Your attention is called to the Curriculum and Requirements for Accredited Training Schools of Nursing recently promulgated by the Nurses' Bureau of the State Board of Health.

"Inasmuch as this Board has laid out an unreasonable program to be followed by hospital training schools in order to be accredited, and inasmuch also as Senate Bill No. 526 does not give this Board authority to make these requirements, it is deemed advisable to use every means possible to control this assumed authority and define by law a sane and reasonable course of studies for nurses, that will allow the hospitals away from the large centers to continue their training schools.

"In order to do this, and prevent further raising of standards already unreasonable, we believe the fairest way will be for the Legislature to establish the Requirements and Curriculum which training schools shall meet, instead of delegating this power to the Nurses' Bureau of the State Board of Health."

ORIGINAL ARTICLES

PRINCIPLES AND PROBLEMS OF INDUSTRIAL ACCIDENT WORK.*

By MORTON R. GIBBONS, M. D., San Francisco.

I am asked to speak on the principles and problems of Industrial Accident Work. This subject I know should be treated from the doctor's side. However, the doctor's side and the Commission's side are so dovetailed as to be almost indistinguishable.

It is the duty of the Industrial Accident Commission to administer a law which at once requires consideration of medical subjects, legal subjects, moral subjects and general humanitarianism.

The text of the law says: "Neither Commission, nor referee appointed thereby, shall be governed by the technical rules of evidence." I suspect that many doctors who have come in contact with the law have gathered the idea that the Commission applies this privilege to medical subjects as well as to legal subjects.

The Commission had at the outset a difficult duty to perform. There were few Commissions in this country when our law became effective. The laws in existence had less scope than has the California law. No Commission had gone far; all were pioneering. The foreign laws help little because of differences of the basic principles of our Government. Our Commission had to make all its rules of procedure and establish its own precedents.

Now a parallel condition existed in the medical experience in the United States. Very few men had ever had great responsibility to meet in the question of trauma and its results. The books, when they mention trauma at all, "*mentioned*" it only. They did not give responsible information.

The California Commission gathered a group of medical men to whom the task of advising it in these subjects has fallen. These men, by their studies of cases, and needs, and by their general familiarity with the work, have become most valuable. They themselves would be surprised to learn the change in their point of view in the last two and one-half years, and surprised to realize their greater facility in handling the ordinary run of cases. However, just because the medical experts are scientific conscientious men, the Commission is sometimes left in a dilemma. Medical and surgical information as you know is not complete. Some things cannot be stated positively by men who regard their reputations. This is not always true of all medical men. The Commission then sometimes finds a conscientious equivocal statement confronted by a comparatively irresponsible positive statement on a point on which no one has the knowledge to say much. This then is a problem of the Commission.

Of course, the Commission must listen to interested parties. I state frankly that some doctors are not above serving a cause which is not scien-

* Read before the San Francisco County Medical Society, August 15, 1916.

tific. Some are willing to make positive statements without positive knowledge and some seem even to be hypnotized by an opportunity to talk, and forget that they are responsible for their words.

Another grave problem is that of securing proper medical and surgical treatment of industrial injuries. The medical advisors of the Commission know all about this matter. Their work lies largely in the review of errors of other doctors. Rightly or wrongly, the California Commission feels responsible for surgical results. It feels responsibility to the people of California. It feels that it is in duty bound to scrutinize results and to influence the seeking of surgical service which *can* offer reasonable scientific treatment. When a crushing fracture of the os calcis passes unnoticed; when an injured knee joint is incised for alleged infection four days after injury; when a fracture of a femur escapes detection; when a fracture of a vertebra is treated by massage, and so on, through a long list, the Commission feels a direct responsibility for the poor results obtained. The Commission therefore stands for the selection of qualified surgeons and physicians as the law provides. I believe I speak for the medical advisors of the Industrial Accident Commission when I say that the medical advisors stand for the same thing.

The two foregoing subjects are probably the more important of the medical problems. We have with us, however, constantly recurring difficulties in a group of cases in which it seems probable that no sharp line of demarcation can ever be drawn. Each case must present a problem all its own. *Hernia, sacro-iliac strains, traumatic neurasthenia, tuberculosis—pre-existing and lighted up—or tuberculosis secondary to injury, osteo arthritis, and old age maintain a never-ending turmoil in the medical affairs of the Commission.*

The clear-cut cases are not difficult to handle. The border-line cases, those in which there may be as many opinions as there are experts, cause trouble. Other difficulties arise from differences of opinion only. They are just as serious cases to decide as any others. Then again there are the cases the conditions of which are not met by any existing information.

I think it would not be out of place to read for your consideration a few examples of the difficulties which confront the Commission and its advisors.

Let me state that the Commission generally takes the medical information coming to it, accepting on its own responsibility that which is plain and clear cut, and in which there is no controversy, while that showing differences of opinion is referred to the medical advisors.

Please remember, in considering these cases which I will quote, that the Commission wants conscientiously to do the right thing. No one not entitled to compensation should receive it. He who is entitled to compensation should not be deprived.

Case 1. F. C. The following is a case of claim for compensation for death of an injured workman.

On October 30, 1915, the deceased suffered a fracture of the pelvis. Injury was treated with plaster paris cast. November 14, two weeks after the injury, injured suddenly died. Autopsy revealed perforation of the heart and pericardium filled with blood. The relatives of the deceased made claim for compensation because of industrial accident. The question arises here—as to the cause of death, or—rather, the cause of the rupture of the heart and its connection with the injury. Abstract of the examination of the heart shows nothing abnormal. No emboli were discovered in pulmonary system. Microscopical examination of the heart showed fraying of fat and muscles at the edge of perforation. Tissue infiltrated with blood. Diagnosis—spontaneous rupture of the heart.

Case 2. H. A. B.—I. A. C. No. 2561. This individual developed actino mycosis in the jaw while working in a grain mill. Actino mycosis has been held to be an industrial injury by certain authorities. Knocker, British authority on industrial accidents, says—"actino mycosis is a disease due to fungus in certain grasses, sometime affecting men." That has been the prevailing opinion. The insurance company interested in the case has made representation to the Industrial Accident Commission quoting authorities which indicate that late investigations will prove that this cannot be a disease coming from grain, or in any way involved in the handling of grain. The above indicates the possibility that the subject of actino mycosis is in a transition stage. The decision of the Commission, if it assumes that attitude, will probably be the first decision denying that actino mycosis is due to industrial injury.

Case 3. P. K. This individual, a man of about 63 years, fell a distance of ten or twelve feet and striking on the temple, and the margins of the orbit of one side of the head. He sustained much contusion about the orbit and eyelids.

Case 4. The last case to which I will invite your attention, is that of (J. B. S. No. 2441). A young man with the following history: On December 27, 1915, in stepping from his automobile to the sidewalk struck the ankle against the curbing. Limped into the store and rested three-quarters of an hour. Went to a druggist and was given a lotion to rub on ankle. Remained home until January 6, 1916, applying liniments, etc. On this date consulted Dr. ———. January 7, 1916, X-ray—11 days—no fracture. January 25 it did show a separation of the periosteum for about three inches at its lower extremity of the fibula. X-ray Feb. 4, 1916—39 days—showed some rarefaction of bone and small advance over first X-ray. March 5, 1916—76 days—three-quarters of an inch more of the fibula involved.

On January 25, Dr. ——— made a small incision in the femur, expecting to find pus. No pus, only a sero-purulent material. March 8th, section of growth removed, showed osteo sarcoma. March 13th, amputation at middle of thigh; no early history of any ankle injury or trouble. Several opinions are on file in this case, and they are about evenly divided as to whether or not trauma caused this osteo sarcoma. It is of utmost importance to decide this point, and it hinges on whether or not a sarcoma may be caused in a bone from a bruise, without fracture, and be so far developed in ten days as to show changes on X-ray plate.

While some authorities tabulate many cases in which sarcoma in a bone has been known to be present in ten days after trauma—there is no case that I can find in which there has been any clinical observation to show that osteo sarcoma did not exist before the injury. We are still trying to decide this point.

STREPTOCOCCIC INFECTIONS OF THE SKIN.*

By ERNEST DWIGHT CHIPMAN, M. D., San Francisco.

Just as in surgical practice the streptococcus is seen to infiltrate subcutaneous tissues and spread rapidly while the activities of the staphylococcus are held in check by defensive abscess walls, so in dermatologic practice the streptococcus, invading the epidermis, shows a marked tendency to rapid dissemination as compared with the staphylococcus which is more strictly confined in its activities to the pilo-sebaceous orifices.

Beside this rapid peripheral extension the streptococcus shows in surface lesions other definite characteristics. For example, the exudate is serous rather than purulent. The lesions resulting from streptococcic infections resemble those caused by burning. The fibrinous exudate which becomes apparent when the discharge diminishes is also quite distinctive. It is thin, clear and whitish or of a light, rosy hue. The streptococcus often, but by no means always, evinces a selective preference for certain sites such as the folds of the skin.

While streptococcic lesions have these points in common, they may vary in appearance, as do lesions from any cause, according to the situation involved, an infection of the palm finding more resistant tissue to contend with and less heat and moisture to favor it than one in the axillary fold.

The type of streptococcic dermatoses is impetigo contagiosa. Probably any of us would say off hand that it is the one of most frequent occurrence. Certainly it is the one most often diagnosed. There are, however, so many commonplace lesions of streptococcic origin which pass unrecognized that a review of some of them will be worth while.

The behavior of streptococcic infections in general is well illustrated in impetigo contagiosa. The striking feature in any case is the fact that all the lesions are crusted. Of course a crust is a consecutive lesion. What of its predecessor? What is the primary lesion and why do we so seldom see it?

First of all, because of the rapid evolution. Impetigo is well named for the word comes from the Latin *impetere* and the lesion is indeed impetuous in its onset. The first lesion of an impetigo is a minute vesicle which contains a clear, serous liquid. The corneous envelope is fragile and ruptures spontaneously or on the slightest scratching or other trauma. An abundant effusion is at once in evidence and this quickly coagulates forming the well known yellowish crust. Beneath this crust the process continues, the surrounding corneous layer being elevated about the circumference, and this in turn is transformed into a crust which doubles the size of the original crust. In the ordinary impetigo contagiosa there is no tendency toward localization in the folds.

ARTIFICIAL FOLLICULITIS COMPLICATING IMPETIGO.

Occasionally one will see between the crusted lesions of true impetigo small, greenish yellow pustules. These are not the true primary lesions

of impetigo but pustules situated about hair follicles—the impetigo of Bockhart. The problem as to why a pure staphylococcus infection should complicate a pure streptococcus infection has long puzzled dermatologists.

Sabouraud explains it somewhat in this way. In lesions caused by the staphylococcus one only finds the staphylococcus; it exists in a pure state as in the furuncle. Even when the staphylococcus is engrafted upon a lesion which it has not caused, it most often supplants the causal organism, disfiguring the primary lesion which it transforms gradually into one of its own type. On the other hand the streptococcus never remains in a pure state in the epidermal lesion which it causes. Almost at the outset it is invaded by other microorganisms. If one examines serial sections of an impetiginous crust great numbers of staphylococci will be found in the upper portion while streptococci are only seen at greater depth and in much less abundance.

IMPETIGO FOLLOWING SCABIES AND PEDICULOSIS.

Aside from impetigo, which is primary, there often develop impetiginous lesions consecutive to some other dermatosis, especially one of a pruriginous character, such as pediculosis vestimentorum or scabies. The presumption in such cases is that the subject has some chronic focus of streptococcic activity, such as the retro-auricular fold. The finger nails used in scratching are the carriers and the lesions of the primary affections speedily become impetiginous. In any case of impetigo of the body that is at all extensive one must always suspect an underlying or an antecedent scabies or pediculosis.

RECURRENCES OF IMPETIGO.

Occasionally recurrent attacks of impetigo are noted, several outbreaks being seen in the same child. These recurrences may extend over a period of several years, each separated from the following by a long interval of apparent cure. In such cases a chronic focus is responsible and is usually to be found in the retro-auricular fold or the nostril. When the offending focus is discovered and treated recurrences cease.

It is in just this tendency of streptococci to become localized in the various folds of the skin that so many vague dermatoses originate. Many of the forms of intertrigo, for a long time considered as pure eczematous reactions, are of streptococcic origin. This mistake is favored by their tendency to become fissured and to exhibit serous effusion, both of which are cardinal signs of eczema.

RETRO-AURICULAR INTERTRIGO.

Among the forms of intertrigo of streptococcic origin perhaps the one most often overlooked is that occurring behind the ear. Sabouraud states that this is so constant one will surely find one or two examples if a hundred cases are examined for it in any pediatric clinic.

Behind the ear a yellow, crusted lesion is observed. In pulling the ear outward to obtain a better view a fissure is opened. Two eroded surfaces are in apposition and their borders are covered with yellowish crusts. Upon removal of

* Read before the San Francisco County Medical Society, January 4, 1916.

these crusts the underlying surfaces are most often seen to be covered with a fine, fibrinous exudate, although sometimes the lesion is nearly healed and only a slight erythema is visible.

The characteristic feature of this infection is therefore the exudate, which varies from slight moisture to marked oozing, and the consequent thick or thin, but always distinctive, impetiginous crust. The tendency toward chronicity is doubtless due to the fact that within the depths of the fold the organisms find the degree of heat and moisture which encourages their growth.

PERLÈCHE.

Another example showing the preference of the streptococcus for the folds of the skin is perlèche. This name designates a contagious, and sometimes epidemic, affection which attacks the angles of the mouth, usually on both sides, but occasionally on only one. The essential lesion is a fissure at the bottom of the fold, which is somewhat eroded and upon which the characteristic fine, fibrinous exudate is seen. On each side of the fissure there is an epidermal thickening. Cultures will give streptococci in a few hours.

INTERTRIGO IN GENERAL.

The marked predilection of the streptococcus for cutaneous fold is undeniable. One may say that all intertrigos are either primarily streptococcic or secondarily infected by streptococci. Many times intertrigo certainly appears as an essentially eczematous reaction because of the fine vesicles so often encountered. These vesicles are, however, found at the periphery of the lesion. At the bottom of the fold will be found a fissure covered with the characteristic exudate, and all such lesions will give within twelve hours a culture of streptococci.

This association of eczematoid elements with streptococcic lesions is particularly observed in the intertrigo so often seen in old and obese subjects. In young subjects the intertrigo may be purely streptococcic with no apparent reaction of an eczematous nature.

PARONYCHIA, PERIONYCHITIS, ETC.

The various infections about the nail are usually of streptococcic origin though often contaminated with staphylococci, so that even though pus be encountered it is more liquid than if caused by staphylococci alone.

ECTHYMA.

Certain lesions, occurring chiefly on the leg, called by French writers *rupia* of Bateman, and often passing under the name of ecthyma, begin as true impetigo. However, under the influence of depressive agents, bad hygiene, over-work, or any cause which greatly lowers resistance, the streptococcus, instead of being limited to the epidermal layers, invades the true skin and causes lesions which only heal with scar formation. The lesion presented is a round ulcer covered with a *rupia* like crust which, when removed, discloses not real pus but a sanious liquid. The lesions are indolent, have little tendency to spontaneous cure,

are autoinoculable and may cause total incapacity of the part affected.

GENERALIZED STREPTOCOCCIC INFECTIONS OF EPIDERMIS.

Rarely one sees a generalized streptococcus infection involving practically the entire body. Sabouraud has recorded the case of a confrère who later died of diabetes in which the lesion began as an inguinal intertrigo and spread over the entire body, sparing only the scalp, the palms and the soles. I can recall a similar case, also in a physician, the starting point of which had evidently been a frank impetigo contagiosa of the face but which spread rapidly over nearly the entire body except for the hands, feet and portions of the lower legs. This subject later became tabetic and it is probable that only in cases of greatly impaired general resistance will the process become so wide spread.

IMPETIGINOUS RHINITIS.

The same condition of heat and moisture which favors the development of organisms in other locations obtains also in the nose. Nasal impetigo or impetiginous rhinitis is by no means uncommon. Because of its location it escapes notice and often serves as a focus for distribution of organisms to other fields. In its evolution behavior and physical aspects it does not differ from ordinary impetigo of the skin.

STREPTOCOCCI AS AN ETIOLOGIC FACTOR IN PITIRIASIFORM ECZEMA.

Often noted upon the face in children are sharply defined, slightly desquamative patches. These occur especially near the mouth. When seen in the proper light they appear lighter in color than the surrounding unaffected skin. These patches commonly pass as pityriasisiform eczema. I am aware that by able men they are often considered as due to dietetic errors, particularly to excessive carbohydrate ingestion.

The suggestion of their possible streptococcic origin was first made to me by Sabouraud some years ago, and while I do not recollect that he had confirmed the opinion by a bacteriologic study, and while further I am not aware of any corroborative studies, I have nevertheless regarded them as due to streptococci foci of low virulence and have seen them disappear under mild mercurial salves.

Other dermatoses in which streptococci are found but in which their etiologic role has not been proven are scarlatina, pemphigus and elephantiasis. Of course streptococci are the acknowledged infective agents in erysipelas.

DERMATOSES INDIRECTLY DUE TO STREPTOCOCCI.

Various dermatoses are due to focal infections. Probably we shall see the list grow. Erythema nodosum, erythema multiforme, some of the forms of herpes and eczema—possible many more. That the streptococcus is the sole active agent in the production of these lesions is too much to say. That it is often an efficient factor cannot be doubted. Certain it is that in all obscure dermatoses a careful search for hidden foci must be instituted.

TREATMENT.

Success in the treatment of superficial streptococcic dermatoses lies not in the application of the chosen medicament alone. In crusted, impetiginous lesions the keynote to efficient treatment is found in the thorough removal of all the crusts, thereby allowing the remedy access to the oozing surface. Unless this is done all attempts are predestined to fail. In those lesions where the process has extended by a circumferential vesicular lesion which has ruptured, leaving a sort of epidermal collarette, great pains must be taken to cut away the dead corneous layer, for otherwise a pocket is left in which the organisms flourish because the remedy does not reach them. Once the surface is properly cleared away of crusts or epidermal pockets the remedy of choice is white precipitate ointment or the Eau d'Alibour of common French use.

White precipitate ointment in its official ten per cent. strength will probably cure any case if properly applied. For infants and those of delicate skin five per cent. is probably better. Sutton of Kansas City prefers to use it in one per cent. strength for all cases.

Eau d'Alibour is a combination which varies much in its published formulas. The most used for this purpose is as follows:

Copper Sulphate.....	2
Zinc Sulphate.....	3
Spts. Camphoræ.....	10
Ag. destil. q. s. ad.....	500

After thorough preparation of the surface this is applied on tampons three or four times daily, the lesions being protected in the intervals with zinc ointment.

For the infections of the retro-auricular fold, the nostrils, or perleche, five per cent. of the tincture of iodine in 80% alcohol is recommended while in lesions affecting the inguinal folds the percentage of the tincture of iodine may be doubled.

Discussion.

Dr. Harry E. Alderson: The name, streptococcus, represents a large class of organisms, some of which are related only morphologically. There are certain definite types of streptococci, however, that we can positively identify as being the causative agents in some rather important dermatoses. Of course in an impetigo contagiosa (which is a simple affair ordinarily), we rarely have to fear a deeper infection developing, but sometimes cases are seen where there is impetigo and there are metastatic lesions due to the streptococcus.

Last year we had in the Skin Clinic of the Stanford University Medical School, a young girl who had four or five attacks of impetigo contagiosa with typical lesions on the face and fingers which we were able to observe. Each time, she had also a classical erysipelas of the face, and on one occasion she developed a parotid abscess, which was treated surgically. A careful hunt was made for a focus, and there was found a chronic lacunar tonsillitis. It will be agreed that this was probably the focus from which the attacks spread. This case, showing recurrent attacks of impetigo contagiosa, erysipelas, and one attack of parotid abscess, I think, presents an interesting picture.

The more serious affairs that may develop from special varieties of streptococci, namely, arthritis, endocarditis, and erythema nodosum (all of which we saw in one case last year in Lane Hospital) are very interesting. One of these patients was a

young woman who had walked from Oregon, sleeping in the open along the way. When she arrived she was pretty much run down. She had a rather severe arthritis, typical erythema nodosum, and endocarditis. We made blood cultures but found nothing. She had several abscesses on her gums, and the streptococcus was found there in pure culture. These different lesions that she presented in connection with the abscesses of the gums seemed to point to the streptococcus as being the principal factor. Our failure to find the streptococcus of Rosenow was no doubt due to the fact that these organisms may occur in the blood in showers, and if a specimen is taken between times the organism will be missed.

Another young woman was in the hospital with erythema nodosum and arthritis, and streptococci were found in her gums.

As for the treatment of impetigo contagiosa, ordinarily it is rather simple, but there are cases which will come back with re-infections; they become re-infected from the fact that although the razor may have been sterilized the brush, soap, or strop had not proper attention. Or, in the case of children, some article of clothing has not been properly cared for, or some household pet is carrying the infection around.

In addition to giving the patients ammoniated mercury (5% in ointment), it is advisable to give them a spray of 1-1000 bichloride of mercury in water, with a small amount of glycerin to make it adhere to apply to the entire exposed surface.

While impetigo contagiosa is usually rather easily eradicated, occasionally there are cases where in spite of our various measures the trouble persists. This is particularly the case at times with infants. We have seen, after three or four injections of streptococcus emulsion, the rapid subsidence of an impetigo that had previously been very stubborn.

Dr. J. Cameron Pickett: Dr. Chipman's paper on streptococcic infections is a very important one, especially at the present time when streptococcic infections are so prevalent in San Francisco. I have never seen so many cases of impetigo and other streptococcic diseases as in the last few months.

The barber shops are one of the greatest sources of streptococcic infections in adults, spreading infection to the beard region.

Dr. Cullen F. Welty: In every large ear clinic, many such cases as Dr. Chipman has shown will be found. They are acute and chronic. We have called them eczema. This eczema back of the ear has the same peculiarities as eczema elsewhere. I am not familiar with the bacteriology of this affection, but do not think it starts as a streptococcus affair. It is my impression that the streptococcus part of this infection is of a secondary nature. A year or so ago, I was sent a case in which to discover the source of infection of facial erysipelas, which the patient had had five times. On most careful examination of the ear, nose and throat, no chronic suppuration was found. Accidentally, I happened to notice an eczematous patch back of both ears. The erysipelas disappeared with the curing of the eczema. The acute condition sometimes comes in operative cases. This, I think, is due to wound infection—carelessness on the part of the surgeon.

Dr. Howard Morrow: There seem to be a couple of points not thoroughly understood in regard to streptococcic infections. Impetigo on the face should not be spoken of as barber's itch. Barber's itch is ring worm and should be restricted to ring worm infection of the hairs of the beard. Another point in which there is a difference of opinion is impetigo in relation to the bullous impetigo of the newborn. In a hospital in San Francisco a short time ago, a maternity case had impetigo on the cheek. Three days after delivery the child developed impetigo, virulence unusually severe, and the child died in ten days. An autopsy

pure culture of streptococcus was returned from the heart blood. Three other cases developed the clinical condition of pemphigus neonatorum, or bullous impetigo of the newborn. Those cases got well in ten days or two weeks, and presented symptoms like dermatitis exfoliativa neonatorum, the so-called von Ritter's disease, undoubtedly a streptococcus infection. In those epidemics which Dr. von Ritter had described, the bullae are unusually few and the exfoliation unusually great.

Dr. B. Jablons: I was very glad that Dr. Welty did not agree with Dr. Chipman in attributing these skin lesions entirely to streptococci.

Jungano and Destaso make mention of the fact that many of these skin conditions are not directly due to bacteria associated with them formerly, but to anaerobic organisms, and I would like to ask Dr. Chipman if anaerobic cultures were made.

I have found that the streptococcus occurs in symbiosis with the Welch bacillus, the *B. fragilis*, and *B. parapatrificus*, that are to-day being recognized as having a pathogenic nature. The fact that they do occur in the folds of the skin, where anaerobic conditions are possible, would tend to strengthen the assumption that not streptococci alone are the causal agents of these infections, but that pathogenic anaerobes are really responsible.

Dr. Chipman, closing discussion: Dr. Jablons has pointed out the possibility of other organisms than streptococci being at the bottom of lesions we have thought to be of streptococcic origin.

In the case shown tonight an ordinary culture was hurriedly made and showed only staphylococci and micrococci catarrhalis. This does not prove that streptococci are not there. I feel positive they are and that, had the culture been made under strict anaerobic conditions, they would have been found. It is certainly well known that streptococcic lesions are most easily superinfected with staphylococci and other organisms.

From lesions such as we have discussed tonight, Sabouraud has made cultures in a pipette, finding in the portion free from air pure cultures of streptococci and in the portion receiving air pure cultures of staphylococci.

Dr. Welty's observation that lesions of the retro-auricular fold associated with discharging ears are not due to streptococci but to faulty dressing, seems rather to prove than to disprove the theory of parasitism.

In any event, I hold no special brief for the streptococcus. Probably it causes the diseases we have discussed though admittedly many others are present at times. The chief point of interest, however, is not that they are due to any one organism, but that they are due to some organism—a point which seems to have been entirely overlooked by many, especially in the case of intertrigo and chronic retro-auricular foci.

In the recurrent cases of impetigo which Dr. Alderson mentioned there was undoubtedly some hidden focus of bacterial activity in the skin itself.

FIBROMYOMA UTERI; SKETCH OF TREATMENT, OPERATIVE AND OTHERWISE, WITH SPECIAL REFERENCE TO ROENTGEN RAY THERAPY.*

By HENRY J. KREUTZMANN, M. D., San Francisco.

In the following sketch I shall attempt to describe to you the development of the treatment of fibromyoma uteri, (f. m. u.) basing my remarks mostly on personal observation during my professional career, extending now over 35 years of active work.

I had the good fortune to be Assistant to the Chair of Obstetrics and Gynecology at the Uni-

versity of Erlangen under Prof. Zweifel in 1880-81. This was a glorious period of medical history; under the protection of antiseptic measures, new undreamed of operations were thought out and carried out successfully, especially abdominal operations. Zweifel was a moving spirit; everything newly published was tried, original ideas put to work. The f. m. u. that came to operation were all of large, sometimes enormous size; these women were all suffering severely, life frequently was a burden; the indication for operation was a vital one. The operation of these tumors consisted in ligating the uterine adnexa, putting some ligature around the lower segment of the mass, amputation, extra-peritoneal fixation of the stump in the lower angle of the abdominal incision.

Zweifel had seen and adopted Dr. Koeberle's procedure; Koeberle in Strassburg, and Spencer Wells in London were the most successful ovariologists of their time; for f. m. u. Koeberle used his "serre-noeud," a sling with screw, using soft wire.

The mortality after this operation was high even in the hands of the best: 20-30%. Recovery after operation was tedious; the sloughing and granulation of the stump required many weeks. The stump retracted; almost always a ventral hernia developed—but the suffering before operation had been so intense that the women felt relieved even with all the shortcomings of this method of operation.

Shortly before that time the clamp had been discarded in ovariectomies; the ovarian pedicle was ligated, cut and dropped into the peritoneal cavity; the abdominal incision closed.

Karl Schroeder in Berlin was the first to adopt this procedure for f. m. u. The tumor was temporarily ligated with an elastic band, the stump was trimmed, sliced like a melon, carefully sutured together, then dropped.

Next to septic infection, it was found that hemorrhages from the stump were frequent causes of death after these operations, and the minds of many were busy devising ways and means to secure absolute hemostasis.

Professor Treutz of Leyden applied to the stump an elastic ligature and dropped it without further attention; Dr. Bardenheuer of Koeln took a kitchen utensil, a "spicknadel"—a needle with which to insert pieces of lard into meat; with this instrument he carried his ligature through adnexa and tumor. Billroth in Wien devised clamps with which to compress the tissue, in order to make a furrow, into which a safe ligature could be placed.

All these things I saw tried at Erlangen. Zweifel himself devised the "continuous ligature in parcels," running from one ligam. infundibuli pelvium to the other.

The greatest progress in principle, aside from dropping the pedicle into the abdominal cavity, was made by Dr. Baer, in Philadelphia, who taught us to ligate the main arteries of supply of the uterus; Chrobak, Wien, formed a flap anteriorly and posteriorly and covered the stump carefully, calling his procedure "retroperitoneal treatment of the pedicle."

By this time the technic of the operation of

* Read before the San Francisco Polyclinic, March 9, 1916.

supravaginal amputation of the uterus had almost reached its climax; annoyance was occasionally caused by the ligatures, silk being mostly used; some ligatures worked their way into the bladder, forming the nucleus of a stone; others produced the very disagreeable "stump exudates."

To overcome this drawback, Bardenheuer removed the whole uterus, leaving no cervical stump at all; August Martin coined the word, that the best treatment of the pedicle was to leave none behind.

Another way to avoid stump exudates was found in abandoning ligatures altogether; compression-instruments were devised with or without cautery, electric and otherwise; in the hands of some experts splendid results were obtained, but by the adoption of fine absorbent ligature material, stump exudates disappeared and results became excellent, especially since very large tumors became rare, and the medium sized tumors offered very good operative chances.

While physicians were centering their energies in improving the technic, especially in reducing mortality of operations on the female genital organs, access to the uterus through the vagina was found to be a safer procedure than the abdominal incision, and so for a while the vaginal route was competing with the abdominal route in operations for f. m. u.; some French operators, Péan, Ségond did wonderful work with the aid of special retractors and clamps; even large tumors were successfully removed per vaginam through what they called "morcellement."

Notwithstanding American operators were the first to remove ovarian tumors through an incision of the Douglas cul-de-sac (Byford, Chicago) their energies were put to perfecting rather the technic of abdominal operations, and today, following their example, vaginal operations for f. m. u. (aside from sub-mucous tumors) are rarely performed.

The ablation of the uterus—abdominal or vaginal, supra-vaginal or total,—means severe mutilation, grave interference with the functions of the genital organs. In some cases a different, conservative treatment offers itself from the very nature of the case, as with the pedunculated sub-mucous or subserous tumor. Here the pedicle is ligated, the tumor, but not the uterus, is removed. The same principle was employed also for intramural tumors. Enucleation, even of large tumors, was recommended and successfully done.

The advantages of this procedure are manifest: the organ remains, the offending tumor alone is removed. My own experience with the enucleation of these intramural fibroids has not been very fortunate; I have done it a few times, removed one or several tumors, only to find more present after a few years. It seems others have had similar unpleasant experiences; therefore, most operators at the present time perform hysterectomy as a routine operation, reserving enucleation for special cases.

The operations heretofore mentioned are to be considered as radical treatment, since the tumors, with the uterus (mostly) are removed. It was

natural at the time when the mortality of these radical operations was very high that other less dangerous, palliative operations were advised and carried out.

For some time curettage of the uterine cavity and cauterization were much in favor; in some cases a simple, harmless, useful procedure; but where the uterine cavity is much distorted, sinuous in consequence of the presence of fibroid tumors, curettage proved itself a rather difficult and at the same time dangerous procedure. At present it is employed merely for diagnostic purposes, where the presence of a carcinoma is suspected.

For a short time ligature of the uterine arteries was done from the vagina; but this groping in the dark was soon abandoned.

Hegar advised the removal of the ovaries; I have seen marvelous results from this operation; hemorrhages ceased, tumors diminished in size, or even disappeared entirely. But in the majority of cases the condition remained unchanged. Hegar's operation was a compromise in the face of the high mortality of myoma operations then prevailing; at present it has only historic interest.

For years physicians were intensely concerned with the technic of operations for f. m. u. When its perfection was attained, when vast numbers of women with f. m. u. had been operated, then physicians wished to know what had ultimately become of their patients, what were the final results of their operative activities. A number of searching, interesting reports were made, and important results published.

It was noticed that in a few cases carcinoma had developed in the cervix, when supravaginal amputation had been done; this observation brought many to favor total extirpation in every case. In other instances, after total extirpation—panhysterectomy—cystocele, prolapse of the vagina was observed. So today most operators vary their procedure according to conditions present; if in a nulliparous woman the vaginal portion is perfectly healthy, the simple amputation is done; but if the vaginal portion is torn, infiltrated, eroded, then it is best to remove the cervix too.

Furthermore, it was found that many women suffered severely from molimina climacterii, much more so and for a longer period than when cessation of menses came about in a natural way; these symptoms were especially distressing in younger women. It was therefore advised to leave an ovary or some ovarian tissue behind whenever the ovary was found to be in a normal condition. But from these ovaries left in the abdomen, trouble arose: some became cystic, others developed into neoplasms; another operation, after some time, had to be performed. From observation extending over many years the following practice is now being accepted:

In women near or at the menopause, remove the uterine adnexa always; in younger women, if the ovaries are in a perfectly sound condition, and if circumstances and possibilities have been explained, an ovary or piece of it may be left.

Of greatest importance and much discussed has been the matter of indication for myomectomies.

When every third or fourth woman died after operation, the indication for such a dangerous undertaking was most carefully considered. Hemorrhages, pressure on diaphragm, intestines, bladder, had to reach a rather high degree before a woman would risk her life with an operation. With the perfection of technic and improvement in results the indications were much extended. It was soon claimed that f. m. u. were in the same class as kystoma ovarii—that is, they should be removed whenever found, whether producing symptoms or not; it was considered wise not to allow them to become troublesome but rather to operate before that stage. It was contended that the presence of a f. m. u. favored and frequently indirectly caused inflammatory affections of the uterine adnexa. Special stress was laid on the observation that occasionally a f. m. u. was not a f. m. but a fibro sarcoma; that a sarcomatous degeneration of the f. m. may take place; that sarcoma or carcinoma may co-exist with the f. m. u.

But these extravagant views of a few possessed of furor operativus were never shared by the medical profession; these views are not sustained by the evidence of every day practice. The sane opinion is that f. m. u. themselves are harmless occurrences; they frequently exist without any symptoms whatever; they produce occasionally discomfort; they interfere occasionally with the well-being of the bearer; they menace life only in extremely rare cases, if ever. To relieve the symptoms constitutes a cure. Conservative physicians have always considered operation for f. m. u., with its risks and sequelæ, as rather out of proportion to the morbid condition; they have looked for some non-surgical remedy, for milder treatment.

Years ago, the continued use of some form of ergot was advised and good results were reported. Electricity was much used in the 80's of the last century, especially since Apostoli in Paris put this treatment on a scientific basis; today electric treatment of f. m. u. is almost forgotten.

In the last four or five years Roentgen rays have been more and more used. At first X-rays were applied in an irregular way, until Dr. Albers-Schoenberg, Hamburg, worked out an effective method; the greatest progress was made, however, in the Freiburg Frauenklinik under Professor Kroenig by Drs. Gauss and Lembke. These gentlemen made many biologic researches upon plants and animals; aided by expert engineers, they created what is called the "Freiburg method," that consists in administering large doses of hard rays with perfect protection of the skin.

When I read many reports of X-ray therapy in Gynecology, I became so much interested in this procedure that in the fall of '13 I made a trip to Germany for the purpose to study actinotherapy in gynecologic practice, to familiarize myself with the technic, to study the scope of application, and to learn of results.

In a paper read before the San Francisco County Medical Society, spring 1914, I reported my experiences at length. I wish once more to emphasize the following—I found in Germany that

operations for f. m. u. had been almost entirely superseded by X-ray therapy. I was informed that 85 to 95% (varying at different clinics) f. m. u. cases seen were treated successfully by X-rays; that is, the symptoms were relieved, all tumors diminished in size, many became imperceptible. The standpoint is now: operation only when X-rays are not advisable, as against the standpoint at the beginning: X-rays when operation is contra-indicated.

The advantages of rays treatment compared with operation are manifest: no deaths, no hospital, no narcosis, no anxiety, no suffering, no complications (phlebitis, ventral hernia, adhesions). The woman makes an appointment with her physician as with the dentist, though there is no such torture as in the dentist's chair. She goes home to return at another time.

Aside from this there are still a few things to the credit of X-rays; after operation the climacteric molimina are frequently most distressing; women treated with X-rays enter menopause gradually and suffer little; furthermore, when desirable, suppression of menses may be avoided, reduction to normal flow may be obtained under treatment with Roentgen rays.

I shall now recite just three typical cases treated by myself:

1. Mrs. L. Beginning of 40. Never been pregnant. Symptoms: protracted profuse menses with consequent anemia. Status: multiple fib. m. u. of small size.

Result. Cessation of menses; blood normal; uterus quite small; nodules scarcely felt.

2. Mrs. Sch. Beginning of 40. Children. Symptoms: profuse metrorrhagia, anemia. Status, f. m. u. of irregular shape, uterus enlarged to size of big man's fist. Had entered hospital for operation. Consulting surgeon advised against operation on account of severe anemia.

Result of X-ray treatment: cessation of menses; uterus small; some nodules just felt; blood normal; restoration to health.

3. Mrs. S. Beginning of 40. Children. Symptoms: severe menorrhagia. Status: adipositas, anemia; f. m. u. enlarging the organ to three times its normal size; on left side of uterus a mass protrudes, size of small apple.

Result: Cessation of menses; blood normal; uterus of normal size; mass on left side just perceptible.

In finishing this paper I want to say just a few more words. The shaping of our views on fibromyoma uteri and the development of operations for these tumors in the last four decades, form one of the most interesting chapters of modern medical history.

The present status of fibromyoma uteri may be summarized as follows:

1. Many fibromyoma uteri need no treatment whatsoever.

2. The bulk of those fibromyoma uteri that need treatment will fall to the domain of Roentgen-ray therapy.

3. The operations for fibromyoma uteri have reached the highest degree of simplicity, efficiency and safety.

INCIPIENT SYSTEMIC DISTURBANCES AS SHOWN BY OCULAR SIGNS.*

By E. W. ALEXANDER, M. D., San Francisco.

The diagnosis and prognosis of many systemic conditions have become so intimately connected with the signs and symptoms of ocular origin that proficiency in the use of the ophthalmoscope will become universal amongst internists in a few years.

The significance of an albuminuric retinitis, disseminated choroiditis, Argyll-Robertson pupil, or papilloedema is now instantly appreciated even by the tyro of internal medicine.

Still further, as illustrative of more specialized signs, we find a beginning temporal atrophy to be suggestive of an early multiple sclerosis; transient attacks of diplopia, of tabes; hemorrhages in the retina, of apoplexy, etc.

But what needs to be emphasized is the correlation of eye signs and the finer balance of the organism as a whole: the signs indicative of disturbed vasomotor and trophic nerve functions, of errors of metabolism, and of hygiene.

Most of such lesions of the ocular tunics are dismissed by the thought that they are due to "constitutional defects" (except for their immediate local indications for treatment). But why treat them so casually? We are missing one of the finer privileges of our profession. We are delaying the progress of preventive medicine by not insisting on a careful estimation of the subtle balance of physiological processes.

These disturbances of efficiency naturally fall into several groups.

Those dependent upon the cardiovascular system often come first to the ophthalmologist because of the failure of a very important organ of special sense. But unless the ophthalmologist has such a possibility in mind, the primary cause of the local symptoms will be overlooked.

It is my practice in all adult cases complaining of eye strain, for instance, to ascertain the presence or absence of certain functional defects; for it has been my experience that the subjective symptoms precede any definite objective signs. My suspicions are always aroused by a history of transient attacks of amblyopia, photopsias of various kinds, inability to sustain accommodation, transient attacks of diplopia and vertigo, tinnitus aurum, especially in the recumbent position, flushes of blood to the head, etc. If such symptoms are elicited and it is found that there is a retinal hyperemia or a mild retinal arteriosclerosis, or especially if there is a mild peri-vascular oedema—more pronounced at the arterio-venous crossings—one may be reasonably certain that there is some general vascular disturbance. While such patients may be doing their daily work as usual, not infrequently a high blood pressure is found, or one of the various defects in the cardiac region, or a vasomotor disturbance, or an abnormal blood picture. Furthermore, how can we expect ocular comfort under such conditions even with the most careful attention to the refraction and muscular balance? It is hopeless to alleviate the focal symptoms unless an

internist contemporaneously takes care of the circulatory system.

But the important point is the early recognition of a systemic inefficiency before it has seriously involved the vital organs, before the appearance of a frank retinal arterio-sclerosis with its complications, or a nephritis, or any of the secondary results of cardiovascular failure, in short, before the patient suspects that there is anything wrong with himself.

In respect to the nervous system, the same generalization holds true. Particularly important in the early diagnosis of tabes, multiple sclerosis, and intracranial tumor, are transient attacks of diplopia and amblyopia; also defects in color fields; cerebrospinal syphilis is suggested by unequal pupils before an Argyll-Robertson appears. The systematic study of the fundus in all eye cases, as well as attention to the ocular muscle balance and the more frequent taking of fields will lead to suspicion and diagnosis before ataxia and other serious symptoms appear.

There are other interesting groups associated with the respiratory, nephritic and gastro-intestinal systems, but there are two subjects which are particularly interesting to me.

The first might be entitled the conservation of vision and health in phlyctenular disease, and the second, ocular signs and symptoms of errors of metabolism.

We are glad to see a steady growth in the propaganda for the prevention of blindness due to ophthalmia neonatorum. The ravages of such an inflammation are rapid and destructive, and the physician is keenly alive to the necessity of dealing with it radically. But in ophthalmia due to phlyctenular disease we have a progressive and chronic affair which extends over years; and because its periods of acute exacerbations are not attended with immediate danger to sight, the disease is allowed to run its insidious course, being treated only at its acute intervals as a local condition. What is the result? I am sure I am not exaggerating when I say that I have seen more useless eyes due to dense leucomata of the cornea, with phlyctenulosis as a cause, than I have similar eyes due to ophthalmia neonatorum, or to optic atrophy of glaucoma. But of even greater frequency are those cases, not of useless eyes but inefficient vision due to faint corneal nebulae. These are, numerically, surprisingly large if one will take the trouble to condense an oblique cone of light on the corneae of all patients who see only 6/7 or 6/10 with their correction. I firmly believe that the economical and sociological factors in these large numbers of phlyctenular eyes are worth considering seriously, and further, that the ophthalmic surgeon who allows repeated attacks of phlyctenular keratitis to follow each other without thorough systemic investigation and treatment is as culpable as the one who does not employ or advise Crede's method.

The pathogenesis of phlyctenulosis is still a mooted point, but it is generally agreed that it is due to constitutional defects. I am convinced that there are two main elements in the symptom com-

* Read before the San Francisco County Medical Society, March 28, 1916.

plex which are practically always present. The first is a tendency to lymphatic hypertrophy, and the second is a gastro-intestinal disturbance. The two form a vicious circle. The picture may be further elaborated by a tubercular infection of the lymphatic or bones, or an eczema in different localities, carious teeth, purulent middle ear, mental defects, etc.

It is difficult to estimate which is the keystone of this arch of toxic foci, but my experience leads me to place the rôle of the tonsils and adenoids in a prominent place. It is useless to put such a patient on a careful diet and give tonics, while quantities of shiny mucus and particles of putrefied inflammatory products from the tonsils are being constantly swallowed. First enucleate the tonsils and adenoids; then a carefully prepared diet and intestinal regime combined with tonics will develop a tone which can easily prevent further attacks.

Of course, carious teeth must be extracted, tuberculin must be administered in cases which are clearly tubercular, broken down glands must be removed, etc. In not a few cases no progress will be made unless the patient is put to rest in a hospital for two or three weeks. I am particularly partial in such cases to diaphoresis, intestinal lavage, control of the usual acidosis with antacids and diet, and massage.

It is remarkable how flooded the system may be with products of auto-intoxication and give no noticeable signs except those in the eye. These children very often run daily temperatures, have the most offensive stools, pass albumen in the urine, etc., and are candidates for a defective, or certainly at least a deficient classification. Therefore the early recognition of the importance of the signs of phlyctenular conjunctivitis and keratitis will lead to conservation of efficiency not dreamed of.

It has been recognized for years that certain inflammations of the eye are due to errors of metabolism, e. g., retrobulbar neuritis, scleritis, and cataract. We still have a great deal to learn concerning the finer qualities of metabolism. Disturbances of metabolism go hand in hand with habit in its broad sense, with the vasomotor system and the trophic nerve system.

Ophthalmologists often see the incipient signs of a breakdown of the balance of these processes before constitutional changes of sufficient extent have developed to attract the attention of the patient or the internist or laboratory worker. At other times laboratory tests and physical signs are positive where the patient is unaware of any defect—except the eye.

These cases are most common among people of 45 or more years of age, and if the signs are heeded many years of efficiency and happiness may be added to their lives.

I will mention a few of a long list of such signs. Loss of eye lashes or eyebrows. Here the metabolic error is not infrequently associated with ductless gland atrophy or insufficiency. A brawny eczematous thickening and redness of the loose skin covering the lids will recur and persist most exasperatingly under local treatment. Chronic

blepharitis and conjunctivitis due to diabetes, gout, etc., also will not recover unless systemic conditions are improved; likewise episcleritis, corneo-scleral infiltrations, marginal keratitis, cyclitis, certain forms of cataract, vitreous opacities, synchysis scintillans, retino-choroidal degeneration, detachment of the retina, retrobulbar neuritis, etc.

In coping with these lesions we are confronted with a lack of laboratory and physical signs, and also in most cases very few subjective symptoms apart from the eye. Therefore it is difficult to make the patient realize the necessity of a more or less radical change of habit; and because of the negative objective signs the physician will not take the initiative in prescribing the necessary eliminative and nutritional measures.

However, in the study of metabolism we know certain units of food are necessary to produce a given number of calories of heat, or of a certain amount of energy for the activity of the individual per kilogram of his weight. Also that the waste products must be properly excreted, and that the nervous tone must be kept up, etc., etc.

Dr. George De Schweinitz has thrown a lot of light on a subdivision of this subject, viz.: the disturbances of the uvea due to auto-intoxication of gastro-intestinal origin. His studies have shown the marked complexity of the subject, and the absolute inadequacy of our present methods of investigation.

Metchnikoff has done much along the same line. He has shown that the physiological processes may be apparently normal in the presence of very marked putrefaction.

In other words, the eye shows conclusively that metabolism is not right, but we are unable to put our finger on the lesion. The only thing to be done is to regulate the habits and apply stimulative measures to the various systems in an empirical way, until some more satisfactory technic can be developed to test metabolic functions. At the same time we will anticipate and prevent serious damage to vital structures.

In conclusion I wish to state that while it is the duty of the ophthalmologist to insist on a decomposition when there is papilloedema with infiltration of round cells before possibly a localization can be made of a brain tumor; to insist on the use of specific remedies in the presence of disseminated choroiditis despite the negative Wassermann; to insist on rest in bed in the presence of retinal hemorrhage even with only a trace of albumen in the urine and not a very high blood pressure; it is, from the standpoint of preventive medicine and conservation of efficiency, also his duty to insist that proper laboratory and clinical tests be made in these early ocular signs of breaking down of systemic groups. Also, in the absence of conclusive signs to the internist, and only the eye signs and subjective symptoms as a basis, the patient should be put on a program of habit, medication, and hygiene which will not only cure the local condition but stop the subtle undermining of vitality and efficiency.

By having these points in mind the ophthalmologist will find that the dry routine of refraction

will take on an entirely different aspect of marked clinical interest, and our reputed narrow specialty will become a surprisingly wide one. And finally, that better co-operation between medicine and surgery and the specialties will be stimulated.

Discussion.

Dr. Harold Gifford, Omaha: As we go along we are more and more impressed with the fact that the ophthalmologist is getting to be somewhat of a minor factor in the treatment of a large number of eye diseases, and between the dentist and general practitioners, not much is left for the oculist! That, however, does not relieve us of the responsibility of getting all the light that we can on these obscure cases. Looking back on 30 years of practice, I can see many cases which I treated somewhat vaguely and ineffectually, without knowing at all the real cause of the trouble—cases of iritis, uveitis, retrobulbar neuritis—cases which we used to treat, and many of them got well, without attention to the real cause of the trouble, which may have been a temporary one. Of course, we knew that a lot of obscure eye diseases are due to nasal and general troubles, but until comparatively recently I did not appreciate how many were due to bad teeth. Since we have known the effects of pyorrhea, and have a radiogram of the teeth as part of the regular examination, we diagnose a good many cases that we formerly missed out on. To just give you one which impressed me: The patient, a woman of about 35, had lost one eye from malignant uveitis. All sorts of things had been tried. By giving full doses of salicylate we could hold the thing for a time, but one eye was practically lost and the other eye was started in the same way. We had asked her whether there was anything the matter with her teeth and she said "Nothing at all." They had been gone over by a good dentist who said that they were perfectly sound. We had a radiogram taken which showed two little apical abscesses. We had those teeth pulled out and all symptoms disappeared; the threatened blindness is a thing of the past. When it comes to treatment of these cases which depend upon some extra-ocular cause, ought we to simply turn them over to the general man and wash our hands of them, or should we after a thorough examination and a line of treatment and suggestion by the general practitioner reassume the main responsibility of the case and see that the treatment is carried out with full regard to the importance of the eye symptoms? There is a strong temptation to follow out the former course, but I believe the latter will give us a better result so far as the eyes are concerned. With regard to the treatment of trouble depending upon arterio-sclerosis, including incipient cataracts, the question of how long the treatment should be continued is an important one. If we grant that iodide of potassium or any other remedy is of use in these cases, can we escape from the conclusion that the remedy should be continued as long as the patient lives? Certainly the tendency to arterio-sclerosis is not going to diminish with advancing age. This brings me to a point which is sociological. I am a socialist politically, and I think the practice of medicine will never be what it ought to be until socialism is established, at least in medicine; that is, not until the economic factor is entirely eliminated and we can feel free to recommend whatever treatment, physician or surgeon seems best, without regard to the pocketbook of either the medical man or the patient.

I enjoyed Dr. Alexander's paper very much, but I differ from him slightly as to the treatment of phlyctenular disease of the eye. There are parts of the world where what he says about phlyctenular disease is very true. In the south among the negroes, it is very common and destructive, and in

the clinic at Zürich where I was formerly assistant, the hospital was half full of phlyctenular keratitis; but in Nebraska and vicinity, I must say that a large portion of the cases of phlyctenular disease that I have seen, have occurred in children who seemed otherwise perfectly healthy, and who have made excellent recoveries without any treatment whatever; in spite of the well-known fact that a large number of these cases show tuberculin reactions. I have seldom resorted even to the cod liver oil or iron. If you can get them to take good care of the edges of the lids, to keep the nose well cleaned with salt solution, and to use yellow ointment in the eyes and on the lids and in the nostrils, and can have this kept up for a month or two after the least sign of the disease have disappeared, the great majority of them get well without any other treatment.

Dr. W. W. Behlow: This paper of Dr. Alexander's seems to me to strike a very fundamental note. The very wealthy patient is able to pay for the various specialists' examinations and therefore may derive benefit from such examinations. The pauper, the indigent, who comes to our free clinics, really receives better examinations and better correlation of these examinations than the very wealthy patient does. The man half-way between, the man of moderate means, the wage-earner, does not receive any of this special work. Realizing that, a group of physicians in St. Luke's decided to co-operate in the diagnosis of disease for the average citizen. The result has been that the cases have been worked up more intelligently, and the examination of the eye has certainly told the members of this particular organization considerable about the general condition of the patient. I have been told that in one case the finding of a keratitis was the particular sign which made the diagnosis of syphilis. Again, the finding of hemorrhages in the retina has been of utmost importance in pointing toward myxedematous state, arteriosclerotic state, or nephritic state. To make my discussion rather brief, I would say that it seems to me that we have in the past failed to recognize the importance of definite correlation of various specialists (and I do not except the eye) with the general medical and surgical work, and that this failure has been one of the greatest drawbacks in the practice of medicine for the average patient. The sooner we get to the point where the ophthalmologist, aurist and laryngologist, neurologist and other specialists, join with the so-called internist and surgeon in really giving medical treatment and medical diagnosis to our average patient, not the Midas or the pauper) the sooner we will arrive at much better medicine and one which will drive the so-called cults out of existence.

Dr. Emmet Rixford: There is a rather powerful force active at present in the direction indicated by Dr. Behlow, namely, the fashion of medical men to get together in small groups with a common waiting room, a common telephone operator, stenographer, etc., and a common laboratory. From three to five doctors, a medical man, a surgeon, an eye man, a gynecologist, associating themselves together and working together, is quite a common thing in the eastern cities and there is more or less of it here. I think this is an economic arrangement and one which will make it easily possible for the man of small means to have the services of several people under the direction of one of the group who may be his particular physician.

There is another strong force in most of the states of the Union leading in the same direction, and that is industrial accident insurance. Under the California law, some of us have had the experience of patients from the laboring classes being sent around from one specialist to another until they get pretty much the opinion of everybody and at not great expense.

SALVARSAN AND NEOSALVARSAN IN TROPICAL DISEASES.*

By HERBERT GUNN, M. D., San Francisco.

The following article is a review of the literature to which a few personal observations have been added. Since the advent of these drugs they have been employed extensively in tropical diseases and in some with beneficial effect.

Malaria: In this disease salvarsan seems to produce the greatest effect on the benign tertian parasite which is the most amenable to quinine treatment.

While several observers claim that salvarsan is destructive to all of the malarial parasites, the consensus of opinion seems to be that if it is to be used it should be combined with quinine treatment.

Werner, working in South Africa and dealing with the subtertian and tertian benign parasites, states, with salvarsan the blood could be cleared of parasites in an average of 17 hours while with quinine it took 36 hours.

To produce a cure from one to two injections, 0.5 grm. are necessary and it must be administered during the acute stage of the disease as there is but very slight effect if given during the latent period. He advocates a combined treatment with quinine and neosalvarsan and states that considerably reduced doses are required.

Amebiasis: The introduction of emetine into medicine has given us a remedy which greatly facilitates the treatment of amebic dysentery. Nevertheless, there are cases which resist all treatment and in these salvarsan may prove to be of benefit.

Further, it has been shown by Allen, Bærmann and others that emetine does not always destroy the amebæ in the intestinal tract to the extent that the amelioration of symptoms would lead one to believe.

Winn, at Panama, reports 12 cases treated with salvarsan and neosalvarsan with improvement in all. The number and character of the stools changed within 24 hours and the stools were free from amebæ within from 24 to 72 hours.

Willets, in Manila, treated eight cases of amebiasis not showing dysenteric symptoms; i. e., cases harboring cysts of *Entamebæ histolytica*, with complete destruction of the parasite in all.

In the same class of cases *ipex* was efficient in 70% of the cases and emetin in only 36%. I have used neosalvarsan in several cases to complete the cure after a thorough course of emetin had been administered. The patients were cured but how much benefit was due to the neosalvarsan I was unable to determine, as the demonstration of encysted forms in such cases is often impossible. However, such a therapy, in view of Willits' findings, would appear to be sound.

Trypanosomiasis: Sleeping sickness, due to the *trypanosoma gambiense*, has been treated quite extensively with salvarsan and neosalvarsan, but with no very definite beneficial results up to the present time.

Vorwerk reports 12 cases treated with salvarsan. He states that the trypanosomes disappear from the blood shortly after the injection but that relapses occur. In his opinion it is of less value than atoxyl.

Lurz treated 16 cases with improvement in the general condition and believes that if used in the early stages it is of benefit.

Aubert treated 51 cases with salvarsan in various stages, and states the drug improves the general condition and causes a gain in weight. One injection produces a sterilization of the blood for four months.

Heckenroth and Blanchard state that one or two injections of salvarsan or neosalvarsan cause, in certain cases, a sterilization of the blood, but that the course of the disease is not checked and the patient dies. In such cases the cerebrospinal fluid contains many trypanosomes unaffected by the drug.

The drug injected subdurally in some of these cases caused a disappearance of the trypanosomes and lymphocytosis, but no permanent improvement of the condition.

Levaditi and Mutermilch have experimented with the serums of rabbits infected with nagana trypanosomes, (*T. Brucie*). The serum was obtained as follows:

- 1st from salvarsanized healthy rabbits.
- 2nd from salvarsanized infected rabbits.
- 3rd from untreated infected rabbits.

Three kinds of serum were thus obtained: No. 1 serum simply salvarsanized, No. 2 serum salvarsanized and containing a trypanolytic amboceptor, No. 3 serum simply containing a trypanolytic amboceptor.

These serums were injected into infected mice with the following result:

Salvarsanized serum effected but slightly the development of the trypanosomes, and hardly delayed the death of the animal.

The effect of the trypanocidal serum containing only amboceptor was practically the same, whereas the effect of the serum salvarsanized and trypanocidal was to stop the multiplication of the trypanosomes and when given in large doses to rid the blood of them.

They suggest that such a serum be used intraspinally in sleeping sickness.

In dermal leishmaniasis (*L. tropica* Wright) the so-called oriental sore or tropical sore, salvarsan seems to be of very little value, although isolated cases are reported of cures being effected by it.

The most striking effects produced by salvarsan are seen in the diseases produced by the spirochaetes.

In yaws or frambesia tropica, caused by the *treponema pertenue*, the results have been excellent.

Harper states, "every Fijian native who does not die in infancy contracts yaws, usually at about the age of two years."

The indirect mortality is great. He treated 90 cases with salvarsan and neosalvarsan with excellent results.

The Yaws Hospital in St. Lucia (Windward

* Read before the San Francisco County Medical Society May 4, 1915.

Islands) treated 245 cases in one year with 229 cures. The drug was used intramuscularly.

Girling, in Belgian Congo, treated 50 cases with rapid and complete cures in all. The drug gave relief in 48 hours, the eruption was dry in a week and gone in 15 days. He states many of these cases had been under treatment for years with atoxyl, tartar emetic, etc.

Grothusen reports 16 cases with a cure in 83% after one injection.

Relapsing fever: This name covers several diseases found in different parts of the world and produced by various spirochaetes—

The European due to the spirochaete obermieri or *S. recurrentis*; the African due to the *S. duttoni*; the Asiatic due to the *S. carteri*; and the American due to the *S. novyi*. In all of these salvarsan and neosalvarsan act as a specific.

Primet, Trans. 13th Internat. Congress of Medicine, summarizing the results obtained by various medical officers in the treatment of relapsing fever in Tokin, since the introduction of salvarsan states: In 102 patients salvarsan was injected subcutaneously, with a mortality of 5.9%, the previous mortality being from 50-75%; 87 were injected intravenously, in varying doses, with a mortality of 2.9%. 270 treated by one officer reducing mortality from 40% to 3%, the minimum efficient dose being 0.2 gm. 195 treated with only 2 deaths—dose 0.25 gm. He states relapses were common after all doses.

While the mortality of relapsing fever noted above as occurring prior to the use of salvarsan appears to be extremely high, there are several writers who note similar mortality among cases in Indo-China; for instance, Perthuisot, who states the mortality in 1911 was 69%, while in 1912, after introduction of salvarsan, it fell to 7.6%, and in 1913 to 4%. He used 0.15 grns. and never found it necessary to give a second injection.

Conseil, in North Africa, treated 11 cases with salvarsan 0.008 gm. per kilo body weight—with 10 cures and one relapse, but all showing very severe reaction, and 11 cases with neosalvarsan 0.021 to 0.007 gm. per kilo body weight, all being cured with one injection and the reaction being much less severe than with salvarsan.

Lamoureux, on the West Coast of Madagascar, treated 25 cases of relapsing fever and believes that 0.3 gm. is inconstant in action and was not always sufficient to cause the disappearance of the spirochaetes.

Swift and Ellis, experimenting with *Spirochaetes duttoni*, propagated in white rats and mice, showed that salvarsanized serum had a most marked spirochaeticidal property.

The same was shown in human beings, neosalvarsan producing a more active serum than salvarsan.

In leprosy as a rule no effect has been obtained, although Schmitter in Manila reports 25 cases showing improvement in many with the use of salvarsan.

In filariasis these drugs have proved useless, though it is thought they may be of some value in elephantiasis.

I have used salvarsan and neosalvarsan experimentally in several cases of rectal bilharziosis without any effect, the miracidia being just as active in the ova after treatment as before.

In clonorchis sinensis infections I have used both drugs—in six or seven cases.

While there was no effect on the life of the parasites, the symptoms seemed to be somewhat ameliorated, there being less pain in the region of the liver and upper abdomen, and the general condition being improved. This improvement lasted for several months, and in two cases the patients returned requesting a second injection and in one a third. In all of these the Wassermann was negative.

Other parasites present during treatment in some of these cases were hookworm, trichocephalus dispar, strongylcides intestinalis, ascaris lumbricoides and cercomonas intestinalis, upon none of which was there any noticeable effect.

SUPPLEMENTARY REPORT OF HUMAN CASES OF RABIES IN CALIFORNIA.

By J. C. GEIGER, M. D.,
Assistant Director, Bureau of Communicable Diseases of
the California State Board of Health, Berkeley.

In a previous article,¹ the number of cases of rabies in human beings in California was reported as 34. A report of two additional cases, making 36 in all, is given, as follows:

No. 35. D. M., a child, age 6, died of rabies in Oakland on August 16, 1915. On July 17th this case was bitten by a dog proven rabid by microscopical examination at the State Hygienic Laboratory. She was badly bitten on both hands, the right hand showing a tear an inch long underneath the thumb, a deep puncture on the top of the thumb, two punctures in the palm of the hand, and two deep punctures on other fingers. There were three punctures on the back of the hand. On the back of the left hand there was a deep cut one-half inch long, an inch tear was on the back of the middle finger and a similar size tear on the palm of the hand. There were a number of punctures on the back of the hand and there was a deep tear on the inside of the ring finger. All the wounds were cauterized with carbolic acid over two hours after the biting.

The child was brought to the laboratory on July 19th and administration of the Pasteur treatment was begun.

On August 13, four days after the completion of the treatment, the mother telephoned this laboratory that the child was not well. That afternoon she was brought to the laboratory. The mother said the child had come home from school the day before complaining of pain in the left arm from the fingers to the elbow. The arm was not tender to touch. The scar on one of the fingers was red. The temperature was 99.7, pulse 124, knee jerks could not be obtained. There was loss of appetite. She could drink water without difficulty, but only wanted a little at a time. She was restless the night before and cried twice.

When seen on August 14th the temperature

was 103, pulse 120. The child readily recognized attendants and seemed normal. The pupils reacted but were dilated, especially the left. When offered water she seemed adverse to drinking it. On persistent urging she was able to drink some with a great deal of difficulty, complaining of pain when she tried to swallow.

On August 15th the patient was highly nervous in the morning, afternoon, and night. She was very talkative, looking into space, seeming to see something with a look of terror. She would throw her arms around her mother and cry very sharply, then sob, then quiet down for a few moments. She would call for water and when offered it she would refuse to take it. There was no real convulsion. The fact that one merely spoke to her would cause a spasm of the face, head and arms, with a jerking of the head. These paroxysms would pass very shortly and then she would appear rational.

On August 16th the child was in a coma and died about 11:30 p. m. No autopsy was held. From the symptoms of this case there is no doubt that the cause of death was rabies, and again points out that complete immunity, even with the intensive Pasteur treatment, is not established fast enough.

No. 36. M. P., a man, age 36, died of rabies on May 8, 1916, at Bieber, Lassen County.

That this patient was bitten could not be established. Investigation showed that a neighbor owned four dogs, one of which, after fighting with a coyote, was shot about two months before when symptoms of rabies were noticed. Shortly after this one of the dogs, with an injured foot, was cared for by the patient. This animal died three or four days later with typical symptoms of rabies. The patient's hands were always cracked and cut, and the supposition is that the infection was probably contracted in this manner. This case is similar to S. N., reported in the previous paper,² in that no history of a bite was obtained and that the symptoms were a laryngeal pharyngeal paralysis.

Portion of the brain tissue sent to the State Hygienic Laboratory was positive for rabies on microscopical examination and animal inoculation. It is interesting to note that sixteen persons were given the Pasteur treatment as actual contacts of this case.

References.

1. Geiger, J. C. Human Cases of Rabies in California and Their Treatment. *California State Journal of Medicine*, June, 1916.
2. Geiger, J. C. The Work of the Pasteur Division of the State Hygienic Laboratory. *California State Journal of Medicine*, August, 1913.

RECENT WORK IN EPILEPSY.*

By EDWARD W. TWITCHELL, M. D., Sacramento.

Epilepsy has so long been one of the opprobria medicorum that we welcome any thing new of promise, either in respect of cause or of treatment, even if the promise be a bit vague. I have endeavored to put together the results of a search of the literature of the subject covering the last three or four years.

The methods of research are so largely biochemical and bacteriological that they present a striking contrast to the methods of not so many years ago when the histological method was almost the exclusive one.

In therapy, the combination bromide-dietetic treatment is that which seems to be the prop of the great majority, and in this majority are included the men who are directors of large institutions for the care of epileptics where opportunity for observation and treatment of vast numbers of patients is afforded. Those who condemn as worthless or harmful the bromide treatment are apt to be those who have discovered marvelous new remedies which relegate all others to oblivion.

I shall abstract some of the more important articles, commenting on them as I go, and taking up those first which consider the etiology. It is not to be supposed that this is a complete review of the literature. Some very important papers have no doubt been overlooked, and I can certify that I have read a number that hardly paid for the time of looking them through.

H. Aimé cites the following passage from A. Leroy (*Paris Medical*, June 2, 1913): "Asthma and epilepsy are probably two manifestations of the same disease. Certain albuminoid products of the placenta, the thyroid, the ovary, testicle, etc., or of globulins set free by syphilis, peptones, albumoses, amino acids, etc., escaping the action of a defective liver, and coming from a sluggish intestine, get into the blood, whose osmotic tension they raise. They run toward the emunctories, and these failing, toward the dialyzing membranes of the economy, the pia and the choroid plexus. Here the phenomenon of the spasm is engendered. When the kidneys finally act, the crisis is over. If the tendency of the poisons is toward the alveolæ, an asthmatic attack results instead." This would be a convenient theory with which to account for those allied manifestations, puerperal eclampsia, and uraemia.

Aimé remarks that haemophiliacs are said never to become epileptics and says this is possibly attributable to the delayed coagulation time of the blood, but Thom (*Epilepsia*, June, 1915) says that epilepsy is not unknown among haemophiliacs, and that the coagulation time was normal in 92% of 203 cases examined by him.

G. Bolten in a careful article mentions Bra's neurococcus, to which I shall refer later. He refers to the work of Bratz, who found glia proliferation in only one-half of his cases and sclerosis of the cornu ammonis in a like percentage. Donath thought

* Read before the Sacramento Society for Medical Improvement July 18, 1916.

**PATRONIZE THOSE
WHO PATRONIZE YOUR
JOURNAL**

choline the cause of the disease. Bodily fluids of epileptics, according to Bolten, are very toxic to animals when injected. This is of course not new; I remember Voisin as far back as 1896 speaking of the extra toxicity of the urine of epileptics. Bolten regards epilepsy as consisting of a large number of conditions, the fit being merely the most striking symptom. He proposes the following classification of the epilepsies:

1st—Cerebral (secondary or symptomatic), a result of chronic meningitis or encephalitis, traumas of cranium, hydrocephalus internus, tumor, lues, etc.

2d—Epilepsy from endogenous intoxication, diabetes or uraemia.

3d—Epilepsy from exogenous intoxication, alcohol, absinth, tobacco.

4th—Affective epilepsy of neuropaths.

5th—Cardiogenic E. (Stokes-Adams).

6th—Epilepsia tarda.

7th—Essential epilepsy.

Bolten regards genuine or essential epilepsy as due to hypo function of the para-thyroids and a hypo intestinal fermentation.

One is somewhat astonished to learn from Ulrich that Ammon says that 62% of all epileptics die directly from the disease and that 42% die in an attack.

Hartmann and di Gasparo comment on the fact that while epilepsy has been recognized and described since the days of Hippocrates, it is only of late that it has been discovered that the fit is not essential to epilepsy, but in the next breath they tell you that one can never be certain of the disease without the fit. Epilepsy without the spasm certainly sounds like a *lucus a non lucendo*. H. and di G. lay stress on the variousness of pathological conditions which may produce the symptom of the fit, and stigmatize essential epilepsy as epilepsy without known cause. There must be underlying all cases of epilepsy, genuine, traumatic and other, some condition which makes this sort of manifestation possible. A sort of epileptogenic state, as if there were within the tissues an epilepsigen which needed only a final touch of one sort or another to make it active. Incidentally they show a chart accurately kept for over four years, showing that the number and severity of the attacks have nothing to do with the phases of the moon.

The census of middle Europe shows one epileptic to 1000 of population. Trousseau is quoted by H. and di G. as saying that no disease is so frequently mistaken as epilepsy. An occasional experience leads me to believe that there is some truth in this. Not only is epilepsy not recognized as epilepsy but other diseases are diagnosed as epilepsy.

Mention was made above of the neurococcus announced by Bra in *Comptes Rendus Ac. d. Sc.*, Jan. 2, 1902. C. A. L. Reed of Cincinnati has caused a stir lately by confirming and amplifying the work of Bra and has made some very strong claims for his surgical methods in the treatment of epilepsy. Reed says that 100% of his cases are markedly constipated (I have not found out just how many cases he has had) and that several stools a day do

not mean that there may not be a great mass of feces still in the colon that never cleared away. This he has found out by the fluoroscope. The only case that I have examined thus, a marked case of grand mal, emptied the colon completely and in less than normal time. Reed found the bismuth meal to stay for 60 hours or more. This stasis is supposed to cause an unusual fermentation and putrefaction with the growth of bacterial products, which upon absorption cause toxæmia. This he says causes a persistent acidosis, but he does not show to my satisfaction how he arrives at this conclusion. The saliva is acid in 100% of his epileptics; urine and sweat highly acid. This acidosis (nothing said of any determination of H ions in the blood) causes an edema of the type described by Martin Fisher—when this edema goes to a sufficient degree in the cerebral tissues there is a fit. No explanation is given as to why the fit ceases.

Bra found a coccus, in 70 of 100 cases, in the blood. He found it only in epileptics, and only before and after the fit. In the intervals the blood was sterile. Cultures injected into rabbits produced typical fits. Reed finds this organism in the blood, also in the caecum and in the appendix. Reed's latest paper describes the organism as a spore bearing bacillus. His conclusions are that:

1st—Epilepsy is caused by a specific infection, probably by a bacillus of the gas forming series.

2d—The infection is in the intestinal canal, probably first in the duodenum, but later in the caecum.

3d—The infection is made effective by constipation.

4th—Relief of constipation by operation cures epilepsy.

5th—Autogenous vaccine is a rational treatment.

Dr. Seavey has made numerous cultures of the urine in epileptics, before and after the attack, and has isolated a coccus apparently like Bra's. It runs to chains as a rule. She has lately isolated it from the blood of a patient whose urine was also full of the same growth.

Bra's work remained unnoticed for years and has received little confirmation yet. Still it was sixteen years that Mendel's work was ignored. It ought not to take very long to see if these findings of Bra and Reed are on a firm foundation.

Treatment: Aimé, who likens epilepsy to asthma, was impressed with the fact that a treatment he had used for the asthmatic was also very beneficial to certain epileptics. This treatment consisted in injections of sodium nitrate and caffeine.

Abregia and Urechia used intraspinal injections of 2% calcium chloride to the amount of 10 cc. The bromide of calcium was used in the same concentration and seemed preferable to the chloride. In all 86 patients were treated. Reactions: a—somnia or sleep for 6 to 10 hours in a few cases; b—loss of tendon reflexes and paresis for 5 to 20 hours in the majority of cases; c—temperature of 38° to 39° C. for as long as 30 hours.

H. French says that bichlorate of soda in doses of 10 grains t. i. d. will often act wonderfully where the bromides have failed.

A. Gordan withdraws the spinal fluid from one

epileptic and injects it subcutaneously into another, never into the patient himself. He had remarkably good results in four cases, one of which had no lumbar puncture himself, but received the spinal fluid of another. This would seem a good way to transmit syphilis, unless great caution were used.

J. Hoppe summarizes the treatment in a large German Asylum for Epileptics. Salvarsan is used in all who are luetic, and the intramuscular method seemed better than the intravenous. Luminal and salvarsan should not be given at the same time. Iodides to the amount of 1 gm. a day are often advisable. Surgery has been a disappointment even in rather recent cases of injury and depression unless the cases were quite fresh. After four years it was useless. All in all, bromides had stood them best in stead. It takes some time to get the full effect, in fact $\frac{1}{4}$ to $\frac{1}{3}$ of the chlorine in the blood must be replaced with bromine before one gets results. The idea should be to keep the chlorine at this point, and to this end the chlorine in the food should be constant in amount. As to choice of the salts, why worry over possible damage of the heart by 2 or 3 gms. of potassium salt when the patient on a potato diet gets 20 to 25 gms. of potassium salts daily?

Luminal is like veronal except that the ethyl group is replaced by a phenyl group. It works very well in doses of .05 to .1 t.i.d. Beware of the phenyl effect on the kidneys in long use, and increase the dose gradually.

Bolten, who considers essential epilepsy a disease of deficient action of the para-thyroids, uses freshly prepared extracts of these glands injected into the rectum. He says his results are remarkable.

A. Kutsinski uses luminal in doses of .15 to .30 gm. daily, never higher. He saw a skin eruption result in one case, and at times gastric distress and nausea. In one case there was staggering. He found no bad effect on heart or kidneys. The worst by-effect is drowsiness which may be quite marked. Luminal reduces the number of attacks, but the attacks return when the drug is stopped.

W. Grzywo-Dybrowski found that luminal had a marked effect even in inveterate cases.

R. Topp says that one bromide is as good as another, except that the organic compounds are not so effective. He praises Dr. Weil's nerve powder, which has the following formula:

haemoglobin	5.
acid albumin	5.
iron	4.
pot. brom.	26.
sod. brom.	54.
Enzian bitters	6.

This is given in unsalted soup.

H. Grabi reports a patient who for the greater part of 2 years and 18 months continuously, has taken .30 g. luminal daily. Although the patient has nephritis, his general health is good. The attacks have been extraordinarily improved, as has also the mental condition.

A. Ulrich says it is good practice to lessen the number of attacks. For example, "A" without

treatment has three to six attacks a month; under treatment he has five a year and can work and is no longer a care. He details the Toulouse-Richet diet, which is as follows:

1000 g.	milk
300 g.	beef
200 g.	flour
2	eggs
50 g.	sugar
40 g.	butter
10 g.	coffee

No alcohol, unsalted soup, unsalted meat, unsalted potatoes with butter. There is 2 g. of Na Cl in this diet. This diet was not easy to prepare and patients rebelled on account of its insipid taste.

Ulrich is a strong advocate of Sedobrol, for the introduction of which he is responsible. This is a preparation in tablet form of bromides, and meat and vegetable extracts, which make a palatable soup with hot water. Each tablet contains a little over 1 g. of bromide. He insists that the treatment by bromides be kept up without intermission year in and year out. The bromide treatment is successful only when gradually and steadily induced. In cases which need from 5 to 6 tablets daily $\frac{1}{2}$ to 1 g. chloral by rectum is helpful. When bromism, which is indicated by dullness, apathy, or irritability results, reduce the bromide to 1 or 2 gm. daily and add 1 to 5 g. of Na Cl to food. Barely is it necessary to stop the bromide entirely for more than a day or two. Arsenic is good for the acne. He has Kocher operate where a local cerebral irritation is demonstrable, but does not stop the bromide.

A. Rodiet reports good results in the treatment of 4 cases with the diet of Maurice de Fleury, although no bromides were given. De Fleury says he himself has not been able to omit the bromide. De Fleury injects an isotonic serum every two days. The diet is as follows:

Breakfast—soup, honey, preserves, fruits (raw or cooked), bread and butter.

Lunch—cream soup, cereals, noodles, macaroni, rice, vegetables, potatoes, salads, cream cheese, fruits.

Dinner—same as lunch.

One liter of lactose water (30 g. lactose) a day.

Bouillon cultures of lactic acid bacilli.

T. A. Williams speaks of the good results following a low protein diet (not over 50 g. protein a day). A model diet as follows:

1st—Not over 60 g. dry protein—i. e., not over 300 g. of eggs, milk, cheese, meat, fowl, fish, nuts, peas, beans.

2d—Eat freely of starch and sugar.

3d—Eat freely of fiber and cellulose.

4th—Exercise and bathe freely.

Five oz. of hot water and 5 to 10 gr. Sod. bicarb. while dressing. One-half hour later breakfast of fruit and milk or cream and cereal and milk and bread and butter. Wait 5 hours and take at most 4 oz. of meat or fish, green vegetables, potatoes, and little sweets. Five hours later same as breakfast with the addition of vegetables and macaroni in place of cereal. Drink only water.

It will be seen from the foregoing that the best

of modern opinion is fairly well united on the method of treatment of idiopathic epilepsy. First, sodium chloride should be reduced to the amount of about 2 g. a day. The chlorine ions are then to be replaced by bromine ions so that at the height of the treatment about $\frac{1}{2}$ of the body chlorine is replaced. The storage place is the blood serum: The amount of bromide required will be from 3 to 6 g. daily. Binzwanger says that 4 g. is the optimum. This bromide treatment should be kept up indefinitely and with few or no remissions. The diet should be strictly ordered and adherence to it should be insisted upon. The occasional success of the advertising quacks is due to the fact that their nostrums contain an average dose of bromide which they insist upon the patient taking continuously—one frequently sees patients who have taken the medicine of Dr. X, which they get by mail or express, for months and years without interruption. The steady, moderate medication achieves results.

Other drugs such as luminal, chloral, paraldehyde, atropin, sodium borate, etc., may be used as adjuncts or occasional substitutes.

Syphilitics should have arsenic, mercury, and iodides.

Surgery is of benefit in selected cases, but no case surgically treated should be regarded as cured until several years have elapsed, and it is well not to stop the use of bromides. Remember that surgery may aggravate instead of curing, by leaving worse scars and adhesions than the original.

Serum treatment has not yet proved its efficacy, and the claims of Bra and the later elaboration of them by Reed require confirmation.

ROENTGEN TREATMENT OF LOCALIZED PYOGENIC INFECTIONS WITH REPORT OF EIGHT CASES.*

By HOWARD E. RUGGLES, M. D., San Francisco.

In view of the remarkable results of Roentgen therapy in cases of tuberculous cervical adenitis, the question has arisen as to what effect would be produced by similar treatment of localized pyogenic infections.

A brief survey of the literature impresses one with the fact that most writers agree with Pancoast (1) who discusses the subject thusly: "In the case of pyogenic organisms the stimulative or even inflammatory reaction which is unfavorable to the life of the tubercle bacillus may in reality prove favorable to the vitality and stimulate the activity of the former." It has been the belief of many that in the case of tuberculous lesions, the bacillus is destroyed or rendered inactive indirectly, through the reaction induced in the tissues by radiation. The experiments upon which this statement is based were performed before the advent of the Coolidge tube. Since this improved tube has changed Roentgen therapy to a considerable extent, the pathologic and Roentgen laboratories of St. Luke's Hospital, with the kind cooperation of Dr. H. E. Foster of the Cutter

laboratories, are endeavoring to determine the effect of direct radiation upon cultural growths of various organisms.

Three months ago, Dunham (2) of Cincinnati reported the results of the treatment of sixty-seven cases of carbuncles by means of the Coolidge tube. The only earlier work upon this subject is that of Coyle (3) whose results with the older methods compare favorably with those obtained by Dunham. The latter's comments are worthy of note. He concludes that "apparently it is the streptococcic infections that receive the most benefit." Furthermore, he states that "nothing in all Roentgen therapy gives such positive and uniformly perfect results as the treatment of carbuncles." Stimulated by such an optimistic report, we, at St. Luke's, have instituted similar treatment in eight cases of localized pyogenic infection. The report of each of these cases follows:

Case 1—Carbuncle: 5 cm. in diameter, 5 days duration, pain, redness, swelling, discharge. One treatment of therapeutic dose. Result: No change for 48 hours, then pain ceased, followed by profuse discharge; in two weeks small crust remaining.

Case 2—Carbuncle: 4 cm. in diameter, 3 days duration, swelling, pain, no discharge. One treatment; pain ceased in 24 hours, followed by moderate discharge, with complete cure in ten days.

Case 3—Chronic Induration: 6 cm. in diameter, following carbuncle, duration one month, slight pain and discomfort, no discharge. One treatment of therapeutic dose, marked improvement, not complete. Repeated with one-half therapeutic dose: complete cure in two weeks.

Cases 4 and 5—Furuncles: 3 cm. in diameter, 4 days duration, pain, no discharge. One treatment: Relieved of pain in 24 hours, no discharge following; complete cure in one week.

Cases 6 and 7—Folliculitis: Duration indefinite; postules appearing in crops of 4 to 8 every two or three weeks. One treatment, full therapeutic dose. After removing existing infected hair follicles, has had no return of trouble.

Case 8—Paronychia: Duration three days, following infection, pain, swelling, redness, no discharge. One treatment: Relieved of pain in 18 hours, followed by slight discharge. Result: Cured in four days.

* From the Roentgen laboratory of St. Luke's Hospital.

1. Pancoast: Practical Treatment, Musser and Kelley.
2. Dunham, K.: American Journal of Roentgenology, Vol. 3, No. 5, page 259, 1916.
3. Coyle, H. E.: Medical Electrolgy and Radiology, Vol. 7, page 139, 1906.

**PATRONIZE THOSE
WHO PATRONIZE YOUR
JOURNAL**

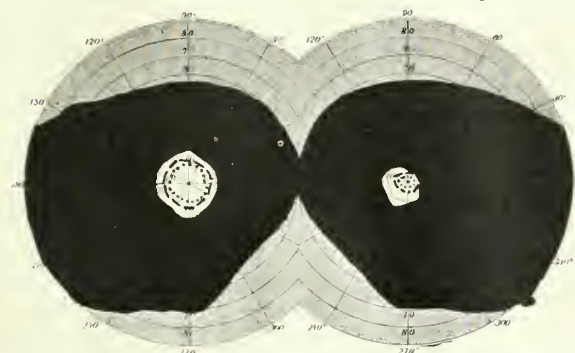
* Read before the San Francisco County Medical Society September 19, 1916.

SUPPLEMENTARY NOTE TO THE ARTICLE ON "BLINDNESS FOLLOWING INJURIES TO THE BACK OF THE HEAD."*

By LEO NEWMARK, M. D., San Francisco.

In the paper named in the heading, the prognosis of the blindness which has been observed after injuries to the back of the head was considered, three cases being adduced, one from the literature and two from personal observation. In one of the personal cases the patient was a child, four years of age at the time of the accident. He seemed to be blind for about six months. At the time of the report, a year and eight months after the injury, he could see: "how much, it has not yet been possible to determine accurately, for he can not be induced to fix his gaze with sufficient steadiness to make a perimetric register possible." His central vision was evidently good, but it was thought that the field was greatly constricted.

Since then the boy has grown in understanding, and Dr. W. S. Franklin was able to map out the



fields; the diagrams show them for white, blue and red, in the order mentioned. The optic discs look just as they did in 1914: they are pale, the right paler than the left, but the vessels are not narrow. Central vision is 20/30 in the right eye, 20/20 in the left.

This is the condition four years after the injury.

TWO FREAK ACCIDENTS DURING TONSILLECTOMIES.*

H. S. MOORE, M. D., San Francisco.

Case 1. A well-developed boy of 20. An unusually large mouth. He was operated upon for chronic tonsillitis. After finishing the operation on removing the Sewall gag, the patient gasped and the tongue of the gag slipped down his throat, lodging between the cords in the larynx. It gave me a bad half moment but after several attempts was able to grasp it between the tips of my fore and middle finger and bring it to light. There were no after effects.

Case 2. Well-nourished girl of 19, a T. B., who had been built up for a badly needed tonsillectomy. She had never had a pulmonary hemorrhage. She took the anesthetic badly as all T. B.s do. After the uneventful removal of the left tonsil, with the cavity perfectly dry, I shifted the gag preparatory to operate upon the other side, when she gave a cough and her mouth filled up with bright red blood. I sponged rapidly and after a few moments the hemorrhage ceased. In the meanwhile the character of the bright frothy blood had told me what had happened and I quickly

enucleated the other tonsil and put the patient to bed. She had one more slight hemorrhage the next morning. Since that time two months after operation she has not had another and her general condition has greatly improved.

STATUS AND STANDARDS OF DISPENSARY PRACTICE.

It is admittedly true that in the development of the present-day hospital system the growth in size and departments of the out-patient departments has been faster than their growth in efficient methods of practice and administration. There is no doubt that the out-patient department and dispensary have come to stay and that the growing demand for their services will lead to still greater development and extension in the near future. There is reason for believing that the dispensary will come to be one of the chief agents in public health and preventive medicine propaganda. It has been recognized of course as a feeder for the hospital. But equally or even more important is its function in following up post-hospital cases both for treatment and for data on end-results. A specialized feature of dispensary practice is its application to preventive medicine. This is exemplified in the infants' milk stations and children's clinics, the tuberculosis clinics and the social service features which are coming into increasing prominence. The dispensary system is being utilized to good advantage too by industrial concerns both for treatment and for prevention.

In spite of the recognized importance of the dispensary in organized medical work, and of the tremendous impetus in the last few years of the systemization of the hospital system, in the interests of economy and efficiency, the dispensary has been grossly neglected, and its real possibilities and obligations have been slighted. It has remained for the American Hospital Association to institute definite steps toward remedying the present deficiencies. The report of the Committee on Out-patient Service of that association (Read at 16th annual conference of Amer. Hosp. Assoc., at St. Paul., Aug. 25-28, 1914. Reported in *Modern Hospital*, Jan., 1915,) embodies the first available general study of the dispensary situation, and formulates a tentative program for improvement.

The total number of dispensaries in the United States is estimated at 760, of which 400 are general dispensaries, 300 are for tuberculosis only, and 60 are restricted to specialties. Nearly 200 more are devoted to preventive work among babies. There are an indefinite number, too, on a private basis, school clinics, of which most are dental, and commercial clinics, not always ethically conducted. The total of 760 is seven times as great as in 1900. Only ten states have no dispensary at all.

* In the California State Journal of Medicine, May, 1914.

* Department of Medicine, Stanford University.

Of the 400 general dispensaries, 75% are in cities of more than 100,000 population; 15% are in cities of between 20,000 and 100,000, and 10% are in towns under 10,000. A significant feature is the recent growth of the dispensary system in the smaller towns and cities.

Of the 400 general dispensaries, about 250, or 62.5%, are out-patient departments of hospitals, and the balance are independent of hospitals. Data could be obtained from but 160 of the 400, and of these 118 were out-patient departments of hospitals. In answer to a question on their organization, 24 of these 118 out-patient departments reported that the clinical medical staff exercised all administrative as well as professional authority. In 11 a clerk or janitor was provided to assign patients and direct employees. In 44 the superintendent of the hospital appointed a representative to discharge these functions. In five of these 44 cases, this representative was changed frequently, and in a large proportion of the remaining 39 the representative is a house officer or nurse with other duties and with no responsibility except for the daily routine. Few indeed had taken the first step toward good organization by placing in charge of the out-patient department a trained officer with due authority. A complicated dispensary receiving several hundred patients daily requires a superintendent in the interest of efficiency and economy just as much as does a hospital. This same criticism holds in effect with the independent dispensaries.

It is stated truly that as a "necessary consequence of inadequate organization, dispensaries have loosely administered admission systems: the routine of transfer of patients for consultation is not worked out: record systems are lax: and perhaps more important than all, the problems and needs of the dispensary are thought out by no one and are not adequately presented to the responsible authorities."

Investigation of dispensary costs was hampered by lack of exact statistics in most cases. A cost accounting system and itemization of different administrative units of the clinic, with a carefully prepared budget, are certainly as necessary in the dispensary as in the hospital or the commercial concern. The unit adopted by the committee of the American Hospital Association was the average cost per patient per visit, but no average figures could be obtained with any reliability. The estimated cost per patient per visit in the out-patient departments ranged from six to sixty-eight cents. The conclusion is drawn that a cost per visit of less than 20 to 25 cents indicates either too low a standard of service or an imperfect system of cost accounting. Fifty to sixty cents can not be considered unjustifiably high. In discussing the cost per visit, as a unit, attention is called to the fact that this unit depends on the two factors of amount of money expended, and the number of visits of patients. With too little money, proper clinical work can not be done. With too many patients for the facilities provided, the standard will also fall.

The report emphasizes the importance of labora-

tory facilities in the dispensary. Of about 160 institutions answering this question, from 83 to 89% had facilities for examination of urine, blood, sputum, throat and vaginal smears, 67% provided for Wassermann reactions, and 71% for X-ray work. This is an encouraging report, but on turning to the utilization of these facilities by the medical staff, the condition is not found so pleasing. The pertinent query is made, "Are we to be satisfied with medical practice which has a laboratory within its reach, but does not use it?" The remedy is to have an acceptable minimum standard and then to live up to it.

Sixty-eight out of 149 institutions reported a social service department; 68 had none, and 13 did not answer. Stress is justly laid on the percentage of patients paying but one visit even though needing further medical attention. In dispensaries of high standing this percentage is found to vary from 30 to 75%. This represents a large element of waste and inefficiency.

On the basis of its investigations so far, the committee on Out-patient Service suggests certain minimal standards which it believes should apply to most dispensaries, including all the large ones. These are worth repeating. 1. There should be a central administrative authority in control. 2. There should be at least one salaried full-time registrar for clerical and statistical work. 3. Statistics should include the following points: New patients in each department; total visits paid by new and old patients together for each department and for the dispensary as a whole; patients should be divided into male and female with the number of children stated under each. The age considered as childhood should be recorded. 4. There should be a central alphabetical card index giving at least name, age, and address for identification. 5. There should be suitable facilities for isolation of contagious suspects. 6. Every patient in the medical departments should receive a general physical examination as a routine. 7. Laboratory facilities should be provided for at least urine, blood, the simpler bacteriological tests, and for Wassermann reactions. 8. Cystoscopic facilities should be provided in the gynecologic and genitourinary clinics. 9. An X-ray department is essential. 10. A woman attendant should always be present at the examination of females requiring exposure of the body. 11. There should be some organized social service work. 12. Accounts of out-patient departments should be kept separate from hospital accounts. 13. A system of fees for patients is desirable not only as a financial measure, but for its reaction on the patients, and its stimulus to good administration. 14. A central registry book should be provided for each member of the medical staff to record his hours of arrival and departure at each clinic.

The Committee on Out-patient Service of the American Hospital Association has taken up an important problem and one that has suffered from neglect. The standardization of dispensary and out-patient practice can only be based on thorough studies of present conditions and needs. Such standardization is necessary and the minimal requirements noted above are to be commended.

SOCIAL INSURANCE COUNTY COMMITTEES.

Alameda County—Dr. H. S. Delamere, chairman; Dr. F. H. Bowles, Dr. H. A. Makinson.
Butte County—Dr. Edw. E. Baumeister, Dr. N. T. Enloe, Dr. J. O. Chiapella.

Los Angeles County—Dr. Wm. Wenzlick, chairman; Dr. J. Ross Moore and Dr. T. Percival Gerson.

Mendocino County—Dr. L. C. Gregory, Dr. Oswald H. Beckman, Dr. H. O. Cleland, Dr. S. L. Rea, Dr. E. H. Sawyer.

Stanislaus County—Dr. B. F. Surryhne, Dr. F. R. Delappe, Dr. E. V. Falk.

Sacramento County—Dr. E. M. Wilder, chairman; W. A. Beattie and J. P. Dillon.

San Bernardino County—Dr. G. G. Moseley, Dr. Carroll C. Davis, Dr. C. G. Hilliard.

San Diego County—Dr. Homer C. Oatman, Dr. R. J. Pickard, Dr. Harry Wegefarrh, Dr. P. M. Carrington, Dr. R. L. Doig.

San Francisco County—Dr. John H. Graves, chairman; Drs. Rene Bine, F. W. Birtch, F. B. Carpenter, A. W. Hewlett, T. W. Huntington, J. H. O'Connor, Langley Porter.

Orange County—Dr. H. M. Robertson, Dr. J. I. Clark, Dr. A. M. Weedie.

Santa Cruz County—Dr. J. M. Gates, Dr. Keck, Dr. E. E. Porter.

Sonoma County—R. M. Bonar, J. W. Cline, N. R. H. Juell.

Tulare County—A. W. Preston, J. T. Melvin, R. N. Fuller.

Ventura County—Dr. D. W. Mott, Dr. C. A. Jensen, Dr. B. E. Merrill, Dr. H. B. Osborn.

San Mateo County—Dr. A. L. Offield (chairman), San Mateo, Cal.; Dr. J. L. Ross, Redwood City, Cal.; Dr. A. R. Moodie, Redwood City, Cal.

Committee on State Industrial Accident Laws.

Los Angeles County—Dr. Wm. R. Moloney, chairman; Dr. E. H. Southworth and Dr. C. P. Thomas.

SOCIETY REPORTS

ALAMEDA COUNTY.

The following meetings were held during the month of October:

October 3rd.

Dr. Bowles, chairman.

I. Etiology of Kidney Infections.

Dr. W. H. Strietmann.

II. Diagnosis of Kidney Infections.

Dr. A. M. Meads.

III. Treatment of Kidney Infections.

Dr. Thos. J. Clark.

IV. Typhus Fever.

Dr. J. C. Geiger.

October 17th. Regular Monthly Meeting.

I. The Operative Improvement of Defective Hip Joints.

Dr. J. T. Watkins.

II. The Effects of the Dithermal Current in the Treatment of Cases of Diminished Hearing.

Dr. John E. Adams.

October 24th.

Dr. Wills, chairman.

This meeting was held at the County Hospital and was preceded by a dinner at the hospital after which cases were shown by Drs. Bowles, Von Adelung, T. J. Clark and Ball.

About sixty members took advantage of Dr. Wills' hospitality.

October 31st.

Dr. Wythe, chairman.

The program consisted of a series of moving pictures of the Smith-Indian Cataract Operation

presented by Dr. A. S. Green of San Francisco under the following headings:

I. Moving Picture Scenes of India.

II. Colonel Smith Operating.

III. Intra-capsular Cataract Operation in Detail.
E. E. BRINCKERHOFF, Secretary.

LOS ANGELES COUNTY.

Regular meeting of the Eye and Ear Section, Los Angeles County Medical Association, met at the office of Dr. J. J. Kyle, 702 Title Insurance and Trust Bldg., Los Angeles, California, October 2, 1916.

Attendance—Drs. Bullard, Brown, Detling, Dudley, Griffith, Graham, Kyle, Leffler, Lund, G. W. McCoy, R. A. Miller, Old, F. L. Rogers, Reed, Stivers, Swetnam, Tholen, Kiefer, Kelsey, Mills, Kress.

Visitors—Drs. Jesberg, Hosmer of San Diego, Graham of Fresno, Edgerton of Pomona, Vallee of New York, Graner of Idaho, Davies of Los Angeles.

The minutes of previous meeting read and approved. Dr. J. J. Kyle read his paper entitled "Epidemic Sinus Infection."

Discussion of Dr. Kyle's Paper.

Dr. Detling—Have done no bacteriological work in sinus infection. It is a big field. So-called infection of colds has been tackled but we have not gone very far. Would like to hear more of the operative treatment.

Dr. J. M. Brown—An excellent paper. Have done no bacteriological work. Dr. Gordon Wilson says: "Every chronic sinus has its pathological changes." Japanese have seemed to have much sinus infection. My treatment, for all sinuses, is never to puncture acute cases, if there is drainage. Where there is some lesion causing damming up of secretion, I puncture. In ordinary cases I use one-half of one per cent. cocain and shrink down in my office. Give patient same solution and instructions to use it every half hour in nose. Eighty per cent. get well after two weeks of above washing with salt and soda solution (soda to cleanse better), some add H_2O_2 to clean. If washings for ten days show no tendency to clear up, I do a modified Krause operation, wash out under inferior turbinate. Then in a couple of weeks, if no result, do a complete Krause. I never operate on acute or sub-acute ethmoid or frontal. Shrink down and wash out and if not successful take off a small piece of middle-turbinate and wash out.

Dr. Griffith—I transilluminate and puncture, use normal saline and soda. Clear up acute cases in three or four washings. Chronic cases last years when treated by dentists. Cases clear up but if not, use Coakley irrigation, go in under lower turbinate and wash out. Ethmoid, I treat same as previous speaker does. I use Mosher method—good results. If chronic I do more radical work.

Dr. Dudley—Most of us seldom get a case unless it is 24 to 72 hours old, thinking they have a cold, neuralgia, etc. I keep case clean, shrink down—two quarts of solution every other day. Cases get well in a few days unless some constitutional condition. I always puncture if I do not get results.

Dr. Vallee of New York—Much pleasure in being here tonight and profit from paper and discussion. In cases of acute boggy condition do not operate—if you do trouble appears. Our best results are found in internal work in the nose. Where septa exist more radical and extensive surgical work must be done. Personally, I do not favor the Killian operation, it is in a dangerous location and opens up a new cavity, the orbit, and seems to me unnecessary. Decongest the nose first, use cocain strong, get drainage, if no re-

sults as to drainage remove some of the middle turbinate, some cells opened, open the bulla—post and ant. cells—and processus uncinarius. Good tool is a rasp. In maxillary sinus work, I would not be as conservative as Dr. Brown. Puncture helps diagnosis. Use argyrol 40 per cent. in the sinus, from coast to coast we are doing it generally. In sphenoid sinus, remove the middle turbinate and get into sphenoid. Some men use zinc chloride solution, 40 per cent. argyrol on pledgets and shoved into superior meatus and leave it there. In boggy condition throughout nose, use inert powder, which rolls up germs as in a blanket.

Dr. Hosmer—Thanks for invitation but turn cases over to a rhinologist.

Dr. Jesberg—Quick evacuation of pus and free drainage will prevent chronic sinus cases, first thing to deal with is the swollen membrane. Weak solution of antipyrin 5% to 10% sprayed in nose after engorgement is less.

Dr. Kieffer—Have had many cases of infection of sinuses in Japanese. Want light on diagnosis of ethmoiditis and sphenoiditis. Am against the sacrificing of turbinate bones.

Dr. Lund—Mentioned puncture of sphenoid close up to septum.

Dr. McCoy—One trouble is if there is no sphenoid you will puncture the brain.

Dr. R. W. Miller—Sod. salts are good solvents of mucus. For fetor permanganate potass. Suction is useful in all cases. Has not been mentioned here, but is useful in ethmoid and sphenoid.

Dr. Old—Bacteriology is very important—can be too conservative in these old cases of sinus infection.

Dr. Rogers of Long Beach—I lean to view of being largely mechanical and in spite of the fact there is a bacteriological side. My experience has not been very encouraging as to vaccines. Is there anything more permanent in its action than cocaine solution?

Dr. Mills—I have had experience in cases of bullet wounds, entering maxillary sinus. Labarraques' solution promptly cleans up cases. It is a one-half of one per cent. solution of hypochlorous acid and has been used in general surgery (Dakins solutions). Its uses in ear, nose and throat should be investigated.

Dr. Kelsey—General consensus is to follow along similar lines. In pain in maxillary regions remember tooth bulbs project into sinus and pain from that cause is common from infraorbital nerve. Use argyrol freely, flushing the nose, effect continues for hours, use hot solution in large amounts.

Dr. Swetnam—Wish Dr. Kyle to define more closely, acute, sub-acute and chronic sinus.

Dr. Kyle (closing)—Acute coryza case is suggestive of sinus involvement. Sub-acute don't have much temperature but there is pain, severe, and dropping in the throat. This means ethmoid or sphenoid. X-Rays are useful. Hard to locate cause of pain. Adrenalin, camphor, boric acid, equal parts, dropped in nose will do away with stuffiness. I believe if you have free drainage you will never have sinus infection. Condition is mechanical. Transillumination is first required—then follows bacteriological side.

New Business.

The joint meeting with the County Medical Association, moved by Dr. Kress, seconded by Dr. Bullard, a committee be appointed to prepare the program.

Dr. Brown moved an amendment that the Executive Committee be allowed to act. Dr. Kress accepted the amendment. A vote on the amendment carried.

Cases Shown, Dr. Stivers, First Case—Tertiary

syphilis. Mexican, large sloughing ulcer in nasopharynx. Wassermann 4+.

Second Case—Shoe button removed from nose of child three years old. The button had been in the nose for three weeks. General anesthesia was necessary, and button removed by ethmoid spoon.

Dr. Detling—Basal fracture, free flow sero-sanguineous from the ear, some weeks later found the patient totally deaf. Paralysis of sixth, seventh, and eighth nerves. Prognosis: Five months since injury, now facial paralysis cured, hearing returned considerably, hears over phone.

Dr. Harris—Carpenter, age 57. In 1914 was struck by team of horses. Fracture of right shoulder blade and two ribs. Ten days unconscious and in bed for thirty-four days. Vision now as good as eighteen months ago. Osteopathist did trephining operation for blood clot on left side. Cannot open left eye since operation. Three fingers can be pushed into scar and feel middle meningeal artery. Irregular pulse. Systolic 118. Diastolic below 100. Legs paralyzed four months. County Hospital made Wassermann 4+ positive.

Dr. G. W. McCoy—Some sinus cases won't get well, especially when sequestra lie in sinuses. This case had pus, radical frontal operation was done, whole superior plate and arch necrosed all away, no sphenoid cells found.

Dr. Rogers of Long Beach—Showed instrument for heat treatment of corneal ulcers. Shortens time of treatment.

MENDOCINO COUNTY.

At the call of the President, Dr. L. C. Gregory, a meeting was held on October 28th. at the residence of Dr. Frank C. Peirsol of Mendocino. Eleven members were present, including the President and Secretary. As special guests, to honor our meeting, we had the Northwestern Pacific Railroad Surgeons' Association, and Drs. Paul S. Campiche and Sol. Hyman of San Francisco.

The guests arrived on a special car at Fort Bragg, where they were met by Drs. Campbell and Wolfe as well as by the President and Secretary. From there the trip to Mendocino was made by auto. Upon arriving in Mendocino we were the guests of the apple show; the show was certainly a fine one of its kind.

At the meeting, Dr. A. Miles Taylor of the Northwestern Pacific Railroad Surgeons' Association, honored our Society by occupying the chair. Supper started the proceedings. At this supper—of the finest one could sit down to—the abalones and quail, in themselves, would have been a sufficient reward for a long trip, not to speak of the rest of the menu. The partakers certainly enjoyed this hospitality and extend their thanks to the hosts, Drs. F. C. Peirsol and H. H. Wolfe. After the ice-cream had been consumed, Dr. Paul S. Campiche read an excellent and instructive paper on: "Technic, Practical Application and Limitations of Local Anesthesia." This was discussed by Drs. Stanley, Campbell, Gregory, Baker, Peirsol, Kuser, Lux, Abrahms, Hyman and A. Miles Taylor, Dr. Campiche closing the discussion. This was followed by a paper, or rather a talk—in fact, it was a fine lecture—"On the Treatment of Certain Very Painful Afflictions: Painful Feet, Pain in the Back, Sciatica, and Trifacial Neuralgia" by Dr. Sol. Hyman. Discussed by Drs. Abrahms, Stanley, Lux, Huntley, Peirsol, Kuser, Sawyer and A. Miles Taylor. After every one present had inspected the exhibits brought by Dr. Hyman, he closed the discussion.

On motion of Dr. Bogle the Northwestern Pacific Railroad Surgeons' Association extended its vote of thanks to the Mendocino County Medical Society.

Dr. George W. Stout, on behalf of Dr. R. L. Richards, Superintendent of the State Hospital at Talmage, extended an offer to assist, at any time, any of the individual members of the Society in their diagnosis, care and treatment of early cases of dementia, thus perhaps, saving those on the borderline from becoming insane. Dr. Stout also extended to our guests, the Northwestern Pacific Railroad Surgeons' Association, Dr. Richards' offer to prepare and to read a paper at a meeting of the Association, which offer was accepted with thanks.

Dr. A. Miles Taylor extended an invitation to our members to attend the meeting of the Northwestern Pacific Railroad Surgeons' Association, to be held at Santa Rosa, or to any other meeting at any other place that might be convenient or accessible.

As Dr. Taylor was closing the meeting, it was announced that Dr. F. McLean Campbell extended an invitation to see Dr. A. Miles Taylor operate on several patients at a clinic to be held at the Fort Bragg Hospital the following morning.

After the clinic, Dr. Campbell entertained at a banquet in the Hotel Windsor.

At 1 p. m. the special started on its return trip. I do hope that each one on that special departed satisfied both in mind and body. That same wish is extended to everyone who took part in this meeting of the Mendocino County Medical Society. OSWALD H. BECKMAN, Secretary.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the Chamber of Commerce Friday evening, October 27. About sixty people were in attendance, there being present in addition to a representative number of members quite a few nurses from the different training schools and several representatives from the local Red Cross Society. Because of the presence of the invited guests, the regular order of business was dispensed with and in the absence of the President, the Secretary introduced the speaker of the evening, Dr. William Palmer Lucas, Professor of Pediatrics in the University of California.

Dr. Lucas selected for his subject "Some Results of Two Years of Feeding Belgium from the Medical Standpoint," especially as regards the children. As Dr. Lucas had personally spent several months during the recent summer investigating the problems of feeding the Belgian children under the supervision of Mr. Herbert Hoover of the American Commission, he was in a position to speak both with authority and with interest, illustrating many points in his address by the use of projection pictures, which he had taken personally in many cases during his travels in the war zone.

DEWEY R. POWELL, Secretary.

SANTA BARBARA COUNTY.

Report of joint meeting of Santa Barbara and Ventura County Medical Societies, held at the Arlington Hotel, Santa Barbara, Cal., November 13.

In honor of the joint meeting a banquet was served at the Arlington Hotel at 7 p. m. Both the banquet and scientific proceedings which followed, were marked by an especially good attendance from both counties. Following the banquet, which all seemed to enjoy, the entire evening was given over to the guest of honor, Dr. Albert A. Soiland of Los Angeles, who was present upon invitation of the Society, and delivered a paper on Practical X-Ray Work, Diagnostic and Therapeutic. The talk was illustrated with a profusion of lantern slides which were intensely interesting.

After a vote of endorsement of the Tri-County Tubercular Sanitarium project for care of the

counties' indigent tubercular, the meeting was adjourned.

R. MANNING CLARKE, M. D., Secretary.

MARIN COUNTY.

August Meeting—The Marin County Medical Society was the guest of Dr. J. H. Kuser, San Rafael, at Fairfax tavern, where a very enjoyable barbecue was given. Dr. S. J. Hunkin, of San Francisco, read a paper on fractures.

September Meeting—The Marin County Medical Society met at the home of Dr. O. P. Stowe, Mill Valley, Calif. Dr. H. W. Wright, of San Francisco, read a paper on the Prevention and Treatment of the More Chronic Conditions of Infantile Paralysis.

October Meeting—The Marin County Medical Society was the guest of Dr. E. W. Alexander, of San Rafael. Dr. C. N. Hoag, of San Francisco, read a paper on Nitrous-Oxide and Anoci Association in Obstetrics and Surgery.

O. P. STOWE, Secretary.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of October, 1916, the following meetings were held:

Tuesday, October 3. Section on Medicine.

Mount Zion Hospital Clinical evening.

1. Obstetrical Operations Performed at Mount Zion Hospital. R. K. Smith and L. I. Breitstein.
2. Demonstration of Patient with Brain Tumor. Wilfred Beerman.
3. Three Interesting Pulmonary Cases; Clinical Reports and X-Ray Demonstration. W. C. Voor-sanger.
4. Original Instruments and Methods. Henry Meyer.
5. Multiple Fractures with Demonstration. Julius Rosenstirn.
6. Observations on a Case of Congenital Hemolytic Jaundice. Emil Schmoll.
7. (a) Bone Graft, with Illustration of Types. (b) Modified Technic for the Intramedullary Bone Splint. (c) Demonstration of Motor for Cutting Bone Grafts. Charles G. Levison.

Tuesday, October 10. General Meeting.

Get Together Meeting. Subject: Welfare of the Profession.

1. Introductory Remarks. Leo Munter.
2. Address. V. G. Vecki.
3. Address. A. S. Keenan.

Tuesday, October 17. Section on Surgery.

1. Seriograph. Description and Demonstration of the Author's Recently Perfected Apparatus for Taking Serial Radiographs of the Intestinal Tract. F. Freytag.
2. Report of Two Cases of the Stenosis of the Duodenum. P. Campiche.
3. Fractures in War Time. L. Eloesser.

Tuesday, October 24. Section on Eye, Ear, Nose and Throat.

1. Demonstration of Case of Unilateral Labyrinthitis Following Acute Parotitis. George H. Willcutt.
2. Case Report of Meningitis of Otic Origin. E. C. Sewall.
3. Demonstration of Stereoscopic X-Ray Plates of Ear and Sinuses. E. G. Cambert.
4. Lantern Slides of Eye Cases. Hans Barkan.

Tuesday, October 31. Section on Urology.

1. Two Cases of Poisoning from the Use of Alpin in the Urethra. L. C. Jacobs.
2. Ureteral Calculi. G. L. Eaton.
3. Urological Diagnosis of Polycystic Kidneys. (Lantern slides.) Frank Hinman.
4. The Value of the Preservation of Urological Specimens of Pathological Interest, with Demonstrations. G. W. Hartman.

CALIFORNIA PEDIATRIC SOCIETY, NORTHERN BRANCH.

The next meeting takes place Thursday, December 7th, in the County Medical rooms. The program:

Haemorrhage Neonatorum. Report of Cases. Reginald Knight Smith.

A Consideration of the Symptoms of Appendicitis Based on a Study of One Hundred Cases. Langley Porter.

Erysipelas in the Newborn. Report of Cases. Dudley Smith.

Amyotonia Congenita. Harold K. Faber.

Ocular Defects in Mentally Retarded Children. Hans Barkan.

The Value of the Wassermann Reaction in the Newborn. Herbert Yerington.

Election of officers.

GEORGE D. LYMAN,
Secretary and Treasurer.

LANE LECTURES.

The Thirty-fifth Course of Popular Medical Lectures will be given at Lane Hall (on the north side of Sacramento street, near Webster) on alternate Friday evenings in January, February and March, 1917, at 8 p. m. sharp. The dates of the lectures will be January 12, 26, February 9, 23, March 9, 23.

The following tentative program has been arranged:

1. Lecture by Dr. Frank W. Lynch, Professor of Obstetrics and Gynecology, University of California; subject to be announced.

2. Lecture by a member of the U. S. Army Medical Corps, on "Typhoid and Smallpox Vaccination among the Troops at the Mexican Border."

3. Lecture by Dr. W. C. Hassler, Health Officer, on "Poliomyelitis."

4. Lecture on "Postural Deformities," by Dr. H. L. Langnecker.

5. Lecture on "Cancer," by Dr. Harry M. Sherman.

6. Lecture on "Prevention of Blindness," by Dr. Hans Barkan.

The lectures are free and all are more than welcome to attend any or all of the course.

REPORT OF THE NOVEMBER MEETING OF THE STATE BOARD OF HEALTH.

The regular meeting of the State Board of Health was held in Sacramento on November 4, 1916. There were present Doctors George E. Ebright, F. F. Gundrum, Edward F. Glaser, Robert A. Peers and W. A. Sawyer.

A communication from Dr. Lela J. Beebe, State Chairman of the Department of Legislation of the California Federation of Women's Clubs, announced that the Federation, through its Executive Board, endorsed the proposed bill providing for the division of the State into six health districts under the State Board of Health, and for the appointment of State District Health Officers and State Sanitary Inspectors.

In response to a communication, the Board expressed the opinion that the regulation of the depth of graves had best remain subject to local rather than State regulation.

The city clerk of a California city was given opportunity to appear before the Board and show cause why he should not be prosecuted for violating the State Registration Act by delaying in transmitting birth and death reports. On receiving assurances that he would observe the law strictly, the case was dismissed with a warning that any repetition of the offense would be followed by prosecution.

Regulations for the prevention of typhus fever in railroad camps were adopted.

A request was received that the rabies quarantine in Lassen County be modified or terminated. An immediate investigation of conditions was ordered with a view to determining whether such action would be justified.

Charges that a certain physician had concealed a case of scarlet fever were dismissed, as the evidence showed that he had reported the case to the health officer as suspected scarlet fever in ample time for precautions to be taken by the health officer.

The resignation of Professor Charles Gilman Hyde as Consulting Engineer was accepted and the thanks of the Board were extended to Professor Hyde for the years of service which he had devoted to the engineering work of the Board, and also for his successful efforts in establishing and developing an efficient bureau of sanitary engineering.

A report was received from the Bureau of Sanitary Engineering relative to the continued and dangerous pollution of the Merced River by concessioners in the Yosemite National Park. Instructions were given to the Secretary to take the matter up with the Department of the Interior and to proceed against the individual concessioners under the State stream pollution laws, if necessary.

In accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, a permit was granted to the City of Chino to dispose of its sewage by irrigation, and a temporary permit was given to the City of Los Angeles to dispose of its untreated sewage into the ocean, pending the results of the proposed bond election for the installation of Imhoff tanks. A temporary permit was given to the City of Hanford to continue to dispose of sewage on its sewer farm.

The plans of the proposed Los Angeles Tuberculosis Hospital were discussed. The floor plan and the modified plan for the roof and the drainage system of the grounds were approved. The Board held that certain expenditures were not justified, as they could better be made for increasing the bed capacity.

Three applications for certificates as Registered Nurse were granted on the recommendation of the Director of the Bureau of Registration of Nurses.

On the recommendation of the Director of the Bureau of Foods and Drugs, licenses to operate cold storage warehouses were granted.

Consideration was then given to numerous cases of alleged violations of the Pure Foods and Drugs Act, and hearings were held as provided by law.

W. A. SAWYER, Secretary.

BOOK REVIEWS

A Text-Book of Pathology. By William G. MacCallum, M. D., Professor of Pathology in the College of Physicians and Surgeons, Columbia University, New York City. Octavo volume of 1085 pages with 575 original illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$7.50 net.

It is indeed a pleasure to read a book, and especially a text-book, on pathology written in the style in which this book appears.

In his preface the author says that it is not intended as a book of reference. This immediately does away with the one adverse criticism that can be offered as one goes through the work. It is not complete, i. e., it is not a dictionary of pathological conditions, but it is far more valuable as it is, for in its present form it is a book that one will read, not only when one has a special point to look up, but it is a volume that every practitioner and student of medicine can take a

keen enjoyment in perusing. Instead of trying to cover every possible lesion, the author takes up types of lesions and presents them one after the other in such form that the reader grasps the fundamental facts and oftentimes a great deal more.

It is useless in a short notice to dwell on any particular chapter or chapters, as not one but all are to be recommended. The author gives a resumé of practically all that is known on the subjects, not only the generally accepted, but frequently states varying views of authors who have worked on unsettled problems. Throughout the whole book a rational balance is preserved, which is most refreshing in these days when theories and fads are so often exploited.

This book is one that every practitioner of medicine should add to his library and read frequently.

A. L. F.

Practical Massage and Corrective Exercises. By Hartvig Nissen, President of Posse Normal School of Gymnastics; Supt. of Hospital Clinics in Massage and Medical Gymnastics; for twenty-four years Lecturer and Instructor of Massage and Swedish Gymnastics at Harvard University Summer School; late Director of Physical Training at Boston and Brookline Public Schools; former Instructor of Physical Training at Johns Hopkins University and Wellesley College; former Director of the Swedish Health Institute, Washington, D. C., etc.; Author of "Swedish Movements and Massage Treatment," "Practical Massage in Twenty Lessons," "A, B, C of Swedish Educational Gymnastics," "Rational Home Gymnastics," etc. With 68 original illustrations, including several halftone plates. Philadelphia: F. A. Davis Co., publishers, 1916. Price, \$1.50.

Since Arthur Guiterman has, in recent time,
Reviewed so many books in rhyme,
And set for critics a new style,
We should follow it for a while.

This little book that I review,
Is one that tells you how to do
Both exercises and massage
On patients whom you have in charge.

In telling HOW, 'tis very good,
In telling WHY, be it understood,
It does not always do as well,
(The only fault on which I'll dwell).

The reason that the WHY is not
So good, is that there is a lot
Of statements that could not be proved.
(We hope next time they'll be removed).

As a manual to guide the way
O'er paths where masseurs love to stray,
This little book is quite all right—
A veritable beacon light.

As a manual, let me repeat,
It is as good as e'er we meet;
But as a MANUAL peruse it,
And not for INDICATIONS use it.

A. L. F.

Painless Childbirth, Eutocia and Nitrous Oxid-Oxygen Analgesia. By Carl Henry Davis, A. B., M. D. Chicago: Forbes & Co., 1916. pp. 134. Price, \$1.00.

This little book covers the field of painless childbirth in a very clear and concise manner, with an especially strong plea for better obstetric practice. After discussing the various methods of relieving pain in labor, he concludes that gas and oxygen is the best. He does not feel that complete amnesia, or loss of memory is necessary,

or even desirable. Analgesia gives the relief from pain which he thinks is the main thing. Gas is also the safest of all the anesthetics used for this purpose. He enumerates the following advantages:

(1) Labor is shortened, (2) the puerperal period is shortened, (3) Nitrous-oxid-oxygen does not interfere with the supply of milk, (4) there is a reduction in the number and severity of lacerations, (5) Nitrous-oxid-oxygen is shown to be a sufficient anesthetic for the entire labor, (6) there is no increased tendency toward post-partum hemorrhage, (7) Nitrous-oxid-oxygen can be used in abnormal as well as normal cases.

The author believes that the relief from pain secured in the analgesic stage with gas is sufficient even when the head is dilating the perineum. We are inclined to doubt this, both on theoretical grounds and from practical experience. In using chloroform or ether we have found that this stage of labor can be better controlled, and tears can be avoided, if complete surgical anesthesia is secured. There seems to be an even stronger need for this when using a light anesthetic like gas.

The chief criticism of the work lies in the fact that it makes the successful use of nitrous-oxid-oxygen appear too easy. As a matter of fact, it is not easy, and the beginner should expect a certain number of unsatisfactory results before he is able to master the necessary technic.

This book should be found upon the shelf of every man interested in obstetrics. C. L. H.

Diseases of Children. By Edwin E. Graham, M. D., Professor of Diseases of Children, Jefferson Medical College, Philadelphia; Pediatricist to the Jefferson Hospital and to the Philadelphia Hospital; Consulting Pediatricist to the Training School for Feeble-minded, Vineland, N. J.; Member of the American Pediatric Society, etc. Octavo, 902 pages, with 89 engravings and 4 plates. Cloth, \$6.00 net. Lea & Febiger, Publishers, Philadelphia, and New York, 1916.

This is a concise textbook for students and general practitioners. Each subject is briefly dealt with under etiology, pathology, symptoms, diagnosis, prognosis and treatment. There are introductory chapters upon general development including statistical data upon each organic function, also chapters dealing particularly with infant mortality, heredity, congenital malformations, diseases of the newborn and about seventy pages on infant feeding and normal digestion.

The sections on treatment are much too brief and lacking in specific directions in several instances to be of much value to the general practitioner.

In the section on poliomyelitis the author advises absolute rest during the acute stage, but at the same time suggests "repeated colon irrigations and stomach lavage, hot packs and electric light baths" (!) Not enough is said as to the immobilization of weakened muscles in the sub-acute stage by proper apparatus to prevent their becoming fatigued or overstretched.

In the section on acute rheumatism no mention is made of the value of complete immobilization of inflamed joints.

In view of the large amount of research that has been done upon pituitary gland tumors and their frequency, more information might have been given in this book upon the diagnosis of these conditions and of brain tumors in general.

The section on laboratory tests of the spinal fluid is much too indefinite in respect to technical details such as would be welcomed by physicians who have no access to a modern laboratory.

H. W. W.

INTERESTING RELIC.

One of the last reminders of the timber days at Truckee, California, was uncovered a few days ago when workmen demolishing one of the old Truckee Lumber Company's sawmills uncovered a bell used by the vigilantes. It was used to summon the vigilantes when the leaders felt the necessity of taking the law in their own hands and exercising the prerogatives of Judge Lynch. Truckee is among the oldest towns of the state and just as it was prominent in the historic days when the Sierras' slopes gave up their gold, so it is prominent now as a summer and winter resort city. Its fishing and hunting and nearness to Lake Tahoe make it the mecca of sportsmen and pleasure-seekers during the summer months and its winter carnival, which begins about Christmas time, attracts thousands during the snow period. Preparations are already under way for the season of winter sports this year. There will be skiing, tobogganing, the ice carnival and the sleigh-rides to historic Lake Donner again this year, and the interest created by the city rinks in skating is expected to add greatly to the number of Truckee visitors.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Barium Sulphate for Roentgen Ray Work.—Barium sulphate freed from soluble barium salts. This salt passes through the system unchanged and, because of this, is used in taking Roentgen Ray pictures of the stomach and the intestines.

Barium Sulphate-Squibb for Roentgen Ray Work.—A brand complying with the standards for barium sulphate for Roentgen Ray work, N. N. R. E. R. Squibb & Sons, New York (Jour. A. M. A., October 7, 1916, p. 1091).

Chlorazene Tablets, 4.6 Gr.—Each tablet contains 4.6 grains chlorazene (sodium paratoluene-sulphochloramine). The Abbott Laboratories, Chicago (Jour. A. M. A., October 21, 1916, p. 1229).

ITEMS OF INTEREST.

Hydras.—The Council on Pharmacy and Chemistry reports that Hydras, sold by John Wyeth & Brother, is one of the so-called "uterine tonics," said to contain "cramp bark, helonias root, hydrastis, scutellaria, dogwood and aromatics" in unspecified amounts. While the name, taken in connection with the composition, suggests that hydrastis is an important constituent, the A. M. A. Chemical Laboratory found this drug to be present in unimportant amounts. The Council finds Hydras inadmissible to New and Nonofficial Remedies because its composition is semi-secret; because the recommendations on the label for its use in specified diseases, and the advertising accompanying the bottle are sure to

lead to its ill-advised use by the public; because the claims made for its curative properties are exaggerated and unwarranted; because the name is misleading and because the combination of these five drugs, even if individually they were of therapeutic value, is irrational (Jour. A. M. A., October 7, 1916, p. 1107).

Nuxated Iron.—Nuxated Iron is advertised in newspapers with the claim that it is not a patent medicine or secret remedy. In the popular meaning of the word, "Nuxated Iron" is just as much a "patent medicine" as is "Peruna," "Lydia Pinkham's" or "Pierce's Favorite Prescription." Also, "Nuxated Iron" is essentially secret in composition. While the public is led to believe that the preparation consists chiefly of nux vomica and iron, analyses made in the A. M. A. Chemical Laboratory and elsewhere indicate that it contains much less than an ordinary dose of iron and practically no nux vomica. It is sold under claims that are both directly and inferentially false and misleading not only as regards its composition but also as regards its alleged therapeutic effects. Nuxated Iron is also advertised in the Medical Brief, a publication which has for its editor the "medical expert" for the Wine of Cardui concern in the recent case against the American Medical Association and as its publisher one who, through the "National Druggist," has long been the mouthpiece of the "patent medicine" interests (Jour. A. M. A., October 21, 1916, p. 1244).

Patent Medicines Prosecuted Under the Food and Drugs Act.—The following information was brought out in connection with prosecutions by the federal authorities under that portion of the Food and Drugs Act which provides penalties against misleading, false and unwarranted therapeutic claims: Radway's Ready Relief was claimed to relieve rheumatism, sore throat, pleurisy, pneumonia and other conditions. The government chemists found the preparation to be a hydro-alcoholic solution of oleoresin of capsicum, camphor and ammonia. Ingham's Vegetable Expecto-rant Nerve Pain Extractor was found to contain alcohol 86 per cent., opium alkaloids, camphor, capsicum and vegetable extractive matter. It was claimed that this morphine mixture was not only safe and harmless, but positively beneficial when given to teething children. Tetterine was said to be a marvelous remedy for tetter, eczema, etc. Maignen Antiseptic Powder according to the government chemists is composed essentially of calcium carbonate, borax, aluminum sulphate and sodium carbonate. Among other things the exploiters of this powder, which at one time was advertised to the medical profession, tried to persuade the public that the preparation would "sterilize" the stomach, throat, nose, lungs, etc. Green Mountain Oil or Magic Pain Destroyer was found to consist essentially of 95 per cent. linseed oil, with oil of sassafras, oil of thuja, and oil of turpentine, with possibly small amounts of camphor. According to the claims made on the trade package, this stuff was said to be "A Remedy for Diphtheria, Croup, Deafness and Sore Eves, Rheumatic Pains, Stiff Joints, Pains in the Back" and many other ailments. Mrs. Joe Person's Remedy was found to be a slightly sweetened water-alcohol solution of vegetable drugs with a minute trace of alkaloids and the presence of podophyllin and sarsaparilla indicated. The preparation was claimed to cure such things as "blood poison," eczema, malaria and pellagra. Tutt's Pills were found to consist mainly of sugar, aloes, starch and calomel. The nostrum was sold under claims to the effect that it was "a remedy for intermittent and remittent fevers, dropsy, dysentery, diseases of the kidneys and bladder," and a number of other conditions (Jour. A. M. A., October 28, 1916, p. 1316-1317).

Editor State Journal,
Dear Sir:

Since the United States Government has discontinued intensive rat trapping the rats and mice are on the increase. In view of this fact we have added systematic rat trapping to our business. Our experts were in the employ of the United States Government in San Francisco, engaged in the successful rat destruction campaign headed by Dr. Rupert Blue.

No doubt some of the members of your Society are troubled with rats and mice and want them destroyed but do not know that there is a reliable firm doing such work.

Would you please bring this matter to the attention of your members. You are perfectly safe in recommending or endorsing our methods as they are the same as those used by the United States Government. The writer held responsible executive positions with the United States Public Health Service and the California State Board of Health for a number of years and is thoroughly familiar with the work of rat extermination.

My fees for such work are small in order to get as many as possible interested in this proposition which is of great value to the community.

Assuring you that your assistance will be highly appreciated, I remain,

Very truly yours,

JOHN F. LEINEN,

President and General Manager.

LEAD IN "AKOZ."

Akoz is a mineral product sold by the Natura Company of San Francisco, California, and said to possess most remarkable medicinal properties.

A circular issued by the Natura Company begins thus:

"While scientists have been striving through the centuries to compound remedies for man's various ills, Nature, greatest chemist of them all, has been working wonders in her crucibles and has achieved results far beyond man's greatest expectation.

"Nature's chief handicap has been the difficulty of placing her gifts in the hands of those whom she would benefit. By accident or fate, as you will, one of Nature's greatest medicinal products has just been discovered. It is the mineral given the name of Akoz by John D. Mackenzie, president and manager of the Natura Company of San Francisco, which is now giving this rare remedy of Nature to the public."

The circular then describes how its power to cure rheumatism is claimed to have been discovered and then asserts that:

"Akoz was subjected to every known scientific test before being presented to the public. It was practically determined that the ore contained a new element having radium-like qualities but containing nothing poisonous or harmful.

"After the curative virtues of Akoz for rheumatism, stomach trouble, eczema, catarrh, piles, ulcers and numerous other ailments had been fully established in chemical laboratory, hospital clinic, and the private practice of physicians in various parts of the world, Mr. Mackenzie effected the organization of the Natura Company."

This product put up in the form of "Akoz medicinal mineral water, Akoz ointment, Akoz powder and Akoz suppositories" was submitted to the Council on Pharmacy and Chemistry for consideration some years ago with the claims that "Akoz" itself consists essentially of zinc sulphide, barium sulphate and aluminum oxide. The submitted analysis did not declare the presence of uranium though "special tests" for it had been

"run," nor the presence of lead. Without checking the claimed composition, the Council at that time refused recognition to Akoz because there was no evidence submitted for the very extravagant and altogether improbable therapeutic claims.

After the Council had concluded the consideration of Akoz a letter was received from a California physician stating that according to an analysis submitted to him Akoz contained 0.34 per cent. of lead in the form of lead sulphate. The correspondent held that, while the lead sulphate did not pass into solution, persons drinking the supernatant liquid from Akoz (the "medicinal mineral water" is made by adding Akoz to ordinary water) would inadvertently swallow some of the powder, and that in this way Akoz had been the cause of lead poisoning.

Inasmuch as it has been demonstrated by Carlson and Woelfel (A. J. Carlson and A. Woelfel, Hygiene of the Painter's Trade by Alice Hamilton, Bull. of U. S. Bureau of Labor Statistics No. 120, May 13, 1913), that even small quantities of lead sulphate, when taken into the system for a long time have produced lead poisoning, the laboratory deemed it important that the product be examined for lead.

A specimen of "Akoz Powder" submitted to the Council by the Natura Company and contained in a sifter-top can was taken for analysis. The contents of the can were thoroughly mixed. To determine the presence of lead some of the powder was extracted with ammonium acetate solution.

Qualitative tests showed the presence of lead and sulphate in the ammonium acetate solution.

The presence of lead was demonstrated by the black precipitate with hydrogen sulphide, the yellow precipitate with potassium chromate and the typical yellowish crystalline precipitate with potassium iodide.

The presence of sulphates in the ammonium acetate solution was shown by the formation of a precipitate with barium chloride solution and acetic acid.

Two 2 Gm. samples were taken for the quantitative determination of lead. Each was treated repeatedly with a saturated solution of ammonium acetate until the filtered ammonium acetate solution gave no appreciable precipitate with potassium chromate solution. The ammonium acetate extractions from each specimen were combined and treated with hydrogen sulphide, the precipitated lead sulphide filtered off and washed, and ignited with sulphuric acid at a low heat. The crucible with the residue of lead sulphate was cooled and weighed.

(A) yielded 0.0469 Gm. or 2.34 per cent. lead sulphate.

(B) yielded 0.0440 Gm. or 2.20 per cent. lead sulphate.

While the laboratory has no evidence to show that the amount of lead sulphate thus found to be present is likely to prove harmful, the following cautionary letter was sent to the Natura Company:

"According to information which you sent to the Council on Pharmacy and Chemistry your product 'Akoz' does not contain lead. In view of reports received ascribing symptoms, resulting from the internal use of Akoz, to chronic lead poisoning, an examination of a specimen of Akoz Powder, which you sent to the Council, was made. This examination indicates the presence in Akoz powder of about 2.2 per cent. lead sulphate. In view of the disastrous results likely to follow the internal use of products containing even small amounts of lead, the above is submitted to you for your consideration."

No reply was received to the above from the Natura Company.

INTERESTING RELIC.

One of the last reminders of the timber days at Truckee, California, was uncovered a few days ago when workmen demolishing one of the old Truckee Lumber Company's sawmills uncovered a bell used by the vigilantes. It was used to summon the vigilantes when the leaders felt the necessity of taking the law in their own hands and exercising the prerogatives of Judge Lynch. Truckee is among the oldest towns of the state and just as it was prominent in the historic days when the Sierras' slopes gave up their gold, so it is prominent now as a summer and winter resort city. Its fishing and hunting and nearness to Lake Tahoe make it the mecca of sportsmen and pleasure-seekers during the summer months and its winter carnival, which begins about Christmas time, attracts thousands during the snow period. Preparations are already under way for the season of winter sports this year. There will be skiing, tobogganing, the ice carnival and the sleigh-rides to historic Lake Donner again this year, and the interest created by the city rinks in skating is expected to add greatly to the number of Truckee visitors.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Barium Sulphate for Roentgen Ray Work.—Barium sulphate freed from soluble barium salts. This salt passes through the system unchanged and, because of this, is used in taking Roentgen Ray pictures of the stomach and the intestines.

Barium Sulphate-Squibb for Roentgen Ray Work.—A brand complying with the standards for barium sulphate for Roentgen Ray work, N. N. R. E. R. Squibb & Sons, New York (Jour. A. M. A., October 7, 1916, p. 1091).

Chlorazene Tablets, 4.6 Gr.—Each tablet contains 4.6 grains chlorazene (sodium paratoluene-sulphochloramine). The Abbott Laboratories, Chicago (Jour. A. M. A., October 21, 1916, p. 1229).

ITEMS OF INTEREST.

Hydras.—The Council on Pharmacy and Chemistry reports that Hydras, sold by John Wyeth & Brother, is one of the so-called "uterine tonics," said to contain "cramp bark, helonias root, hydrastis, scutellaria, dogwood and aromatics" in unspecified amounts. While the name, taken in connection with the composition, suggests that hydrastis is an important constituent, the A. M. A. Chemical Laboratory found this drug to be present in unimportant amounts. The Council finds Hydras inadmissible to New and Nonofficial Remedies because its composition is semi-secret; because the recommendations on the label for its use in specified diseases, and the advertising accompanying the bottle are sure to

lead to its ill-advised use by the public; because the claims made for its curative properties are exaggerated and unwarranted; because the name is misleading and because the combination of these five drugs, even if individually they were of therapeutic value, is irrational (Jour. A. M. A., October 7, 1916, p. 1107).

Nuxated Iron.—Nuxated Iron is advertised in newspapers with the claim that it is not a patent medicine or secret remedy. In the popular meaning of the word, "Nuxated Iron" is just as much a "patent medicine" as is "Peruna," "Lydia Pinkham's" or "Pierce's Favorite Prescription." Also, "Nuxated Iron" is essentially secret in composition. While the public is led to believe that the preparation consists chiefly of nux vomica and iron, analyses made in the A. M. A. Chemical Laboratory and elsewhere indicate that it contains much less than an ordinary dose of iron and practically no nux vomica. It is sold under claims that are both directly and inferentially false and misleading not only as regards its composition but also as regards its alleged therapeutic effects. Nuxated Iron is also advertised in the Medical Brief, a publication which has for its editor the "medical expert" for the Wine of Cardui concern in the recent case against the American Medical Association and as its publisher one who, through the "National Druggist," has long been the mouthpiece of the "patent medicine" interests (Jour. A. M. A., October 21, 1916, p. 1244).

Patent Medicines Prosecuted Under the Food and Drugs Act.—The following information was brought out in connection with prosecutions by the federal authorities under that portion of the Food and Drugs Act which provides penalties against misleading, false and unwarranted therapeutic claims: Radway's Ready Relief was claimed to relieve rheumatism, sore throat, pleurisy, pneumonia and other conditions. The government chemists found the preparation to be a hydro-alcoholic solution of oleoresin of capsicum, camphor and ammonia. Ingham's Vegetable Expectoant Nervine Pain Extractor was found to contain alcohol 86 per cent., opium alkaloids, camphor, capsicum and vegetable extractive matter. It was claimed that this morphine mixture was not only safe and harmless, but positively beneficial when given to teething children. Tetterine was said to be a marvelous remedy for tetter, eczema, etc. Maignen Antiseptic Powder according to the government chemists is composed essentially of calcium carbonate, borax, aluminum sulphate and sodium carbonate. Among other things the exploiters of this powder, which at one time was advertised to the medical profession, tried to persuade the public that the preparation would "sterilize" the stomach, throat, nose, lungs, etc. Green Mountain Oil or Magic Pain Destroyer was found to consist essentially of 95 per cent. linseed oil, with oil of sassafras, oil of thuja, and oil of turpentine, with possibly small amounts of camphor. According to the claims made on the trade package, this stuff was said to be "A Remedy for Diphtheria, Croup, Deafness and Sore Eyes, Rheumatic Pains, Stiff Joints, Pains in the Back" and many other ailments. Mrs. Joe Person's Remedy was found to be a slightly sweetened water-alcohol solution of vegetable drugs with a minute trace of alkaloids and the presence of podophyllin and sarsaparilla indicated. The preparation was claimed to cure such things as "blood poison," eczema, malaria and pellagra. Tutt's Pills were found to consist mainly of sugar, aloes, starch and calomel. The nostrum was sold under claims to the effect that it was "a remedy for intermittent and remittent fevers, dropsy, dysentery, diseases of the kidneys and bladder," and a number of other conditions (Jour. A. M. A., October 28, 1916, p. 1316-1317).

Editor State Journal,
Dear Sir:

Since the United States Government has discontinued intensive rat trapping the rats and mice are on the increase. In view of this fact we have added systematic rat trapping to our business. Our experts were in the employ of the United States Government in San Francisco, engaged in the successful rat destruction campaign headed by Dr. Rupert Blue.

No doubt some of the members of your Society are troubled with rats and mice and want them destroyed but do not know that there is a reliable firm doing such work.

Would you please bring this matter to the attention of your members. You are perfectly safe in recommending or endorsing our methods as they are the same as those used by the United States Government. The writer held responsible executive positions with the United States Public Health Service and the California State Board of Health for a number of years and is thoroughly familiar with the work of rat extermination.

My fees for such work are small in order to get as many as possible interested in this proposition which is of great value to the community.

Assuring you that your assistance will be highly appreciated, I remain,

Very truly yours,

JOHN F. LEINEN.

President and General Manager.

LEAD IN "AKOZ."

Akoz is a mineral product sold by the Natura Company of San Francisco, California, and said to possess most remarkable medicinal properties.

A circular issued by the Natura Company begins thus:

"While scientists have been striving through the centuries to compound remedies for man's various ills, Nature, greatest chemist of them all, has been working wonders in her crucibles and has achieved results far beyond man's greatest expectation.

"Nature's chief handicap has been the difficulty of placing her gifts in the hands of those whom she would benefit. By accident or fate, as you will, one of Nature's greatest medicinal products has just been discovered. It is the mineral given the name of Akoz by John D. Mackenzie, president and manager of the Natura Company of San Francisco, which is now giving this rare remedy of Nature to the public."

The circular then describes how its power to cure rheumatism is claimed to have been discovered and then asserts that:

"Akoz was subjected to every known scientific test before being presented to the public. It was practically determined that the ore contained a new element having radium-like qualities but containing nothing poisonous or harmful.

"After the curative virtues of Akoz for rheumatism, stomach trouble, eczema, catarrh, piles, ulcers and numerous other ailments had been fully established in chemical laboratory, hospital clinic, and the private practice of physicians in various parts of the world, Mr. Mackenzie effected the organization of the Natura Company."

This product put up in the form of "Akoz medicinal mineral water, Akoz ointment, Akoz powder and Akoz suppositories" was submitted to the Council on Pharmacy and Chemistry for consideration some years ago with the claims that "Akoz" itself consists essentially of zinc sulphide, barium sulphate and aluminum oxide. The submitted analysis did not declare the presence of uranium though "special tests" for it had been

"run," nor the presence of lead. Without checking the claimed composition, the Council at that time refused recognition to Akoz because there was no evidence submitted for the very extravagant and altogether improbable therapeutic claims.

After the Council had concluded the consideration of Akoz a letter was received from a California physician stating that according to an analysis submitted to him Akoz contained 0.34 per cent. of lead in the form of lead sulphate. The correspondent held that, while the lead sulphate did not pass into solution, persons drinking the supernatant liquid from Akoz (the "medicinal mineral water" is made by adding Akoz to ordinary water) would inadvertently swallow some of the powder, and that in this way Akoz had been the cause of lead poisoning.

Inasmuch as it has been demonstrated by Carlson and Woelfel (A. J. Carlson and A. Woelfel, Hygiene of the Painter's Trade by Alice Hamilton, Bull. of U. S. Bureau of Labor Statistics No. 120, May 13, 1913), that even small quantities of lead sulphate, when taken into the system for a long time have produced lead poisoning, the laboratory deemed it important that the product be examined for lead.

A specimen of "Akoz Powder" submitted to the Council by the Natura Company and contained in a sifter-top can was taken for analysis. The contents of the can were thoroughly mixed. To determine the presence of lead some of the powder was extracted with ammonium acetate solution.

Qualitative tests showed the presence of lead and sulphate in the ammonium acetate solution.

The presence of lead was demonstrated by the black precipitate with hydrogen sulphide, the yellow precipitate with potassium chromate and the typical yellowish crystalline precipitate with potassium iodide.

The presence of sulphates in the ammonium acetate solution was shown by the formation of a precipitate with barium chloride solution and acetic acid.

Two 2 Gm. samples were taken for the quantitative determination of lead. Each was treated repeatedly with a saturated solution of ammonium acetate until the filtered ammonium acetate solution gave no appreciable precipitate with potassium chromate solution. The ammonium acetate extractions from each specimen were combined and treated with hydrogen sulphide, the precipitated lead sulphide filtered off and washed, and ignited with sulphuric acid at a low heat. The crucible with the residue of lead sulphate was cooled and weighed.

(A) yielded 0.0469 Gm. or 2.34 per cent. lead sulphate.

(B) yielded 0.0440 Gm. or 2.20 per cent. lead sulphate.

While the laboratory has no evidence to show that the amount of lead sulphate thus found to be present is likely to prove harmful, the following cautionary letter was sent to the Natura Company:

"According to information which you sent to the Council on Pharmacy and Chemistry your product 'Akoz' does not contain lead. In view of reports received ascribing symptoms, resulting from the internal use of Akoz, to chronic lead poisoning, an examination of a specimen of Akoz Powder, which you sent to the Council, was made. This examination indicates the presence in Akoz powder of about 2.2 per cent. lead sulphate. In view of the disastrous results likely to follow the internal use of products containing even small amounts of lead, the above is submitted to you for your consideration."

No reply was received to the above from the Natura Company.

NAVY SURGEONS.

I am forwarding herewith for your information circulars describing the Medical Corps of the United States Navy.

Legislation has recently been enacted which will provide for approximately 300 additional medical officers in the Medical Corps of the United States Navy.

The pay ranges from \$2,000 per year, with quarters or an allowance therefore, for assistant surgeons with the rank of Lieutenant, Junior Grade, to \$8,000 with allowances upon attaining the grade of Medical Director with the rank of Rear Admiral of the upper half.

Applicants must be between the ages of 21 and 32 years, citizens of the United States, and must submit satisfactory evidence of preliminary and medical education. The examination for appointment in the Medical Corps consists of two stages, the first stage, securing appointment in the Medical Reserve Corps, and the second stage, securing an appointment as a commissioned officer in the regular Medical Corps.

After the candidate passes the preliminary examination he attends a course of instruction at the Naval Medical School. During this course he receives full pay and allowances of his rank, and at the end of the course he takes a final examination. Two of these courses begin each year, one commencing about the first of October, and the second course beginning early in February.

The examinations are held in several of the coast cities in the United States, both on the east coast and the west coast, and also at Chicago, Ill.

Literature describing the Navy as a special field for medical work, and circulars of information for persons desiring to enter the Medical Corps, may be obtained by addressing the Surgeon General, U. S. Navy, Navy Department, Washington, D. C.

The foregoing information is furnished as it is believed it is of interest to you, and that you will want to give it some notice in your journal.

Very truly yours,

W. C. BRAISTED,
Surgeon General, U. S. Navy.

ABSTRACT—SANITARY UNITS IN THE FIELD AND LINES OF MEDICAL AID.

(By Captain Leo C. Mudd, Medical Corps, U. S. Army.

In the Zone of the Advance, that is, within or immediately adjacent to the field of fighting, there is found, typically, the following:

- I The Regimental Aid Station.
- II Dressing Stations.
- III Sanitary Trains, consisting of Ambulance Companies and Field Hospitals; the latter either set up or in wagons.
- IV Stations for the slightly wounded.

Connecting these formations with the larger units of the service of the interior, there is formed a line of communication.

On the line of communication there are found, typically, three groups of formations, viz.: The Base Group, the Intermediate Group, and the Advance Group. The composition of these is as follows:

BASE GROUP: A medical supply depot, one or more base hospitals, and, when required, convalescent camps, contagious disease hospitals, hospital trains and trains for patients, hospital ships and ships for patients, casual camps, sanitary squads, field laboratories, and organizations of the American Red Cross.

INTERMEDIATE GROUP: Rest stations, organizations of the American National Red Cross, and such other sanitary formations as may be necessary.

ADVANCE GROUP: Two evacuation hospitals and one evacuation ambulance company for each

division at the front supplied from the advance section, and an advance medical supply depot. The evacuation hospitals and evacuation ambulance companies of the advance section are collectively known as the sanitary column.

The Regimental Aid Station.

This station, established by each regiment or independent battalion during combat and when justified by the number of wounded, is the place to which all wounded of the organization are carried by its sanitary personnel, and where emergency treatment is administered. The position of the station is fixed by the organization commander and is as near the firing line as possible.

Dressing Stations.

These stations, established during combat, by ambulance companies of the sanitary train, in the immediate rear of the line of regimental aid stations, are places where all wounded, unable to walk, are collected from regimental aid stations by bearers of ambulance companies. From these stations the wounded are transported by ambulance companies back to field hospitals. The equipment of dressing stations is more elaborate than that of the regimental aid station. It provides light nourishment and stimulants for the wounded and affords facilities for more elaborate dressings and for emergency surgery.

Ambulance Companies.

Ambulance companies are Medical Department units, consisting, principally, of wheeled transportation—the mule-drawn conveyance giving way to the motor ambulances when road conditions permit. A typical ambulance company in our service consists of twelve (12) ambulances, three (3) wagons, eighteen (18) riding horses, sixty (60) draft mules—4 for each vehicle—and four (4) pack mules.

The function of the ambulance company is to push up close to the rear of the fighting troops, as near to the line of regimental aid stations as possible, and establish dressing stations. They are charged with the transportation of the wounded back to field hospitals, giving them such temporary care and treatment as is possible while en route.

Field Hospitals.

The function of the field hospital is to keep in touch with the combatant organizations, and to provide shelter and such care and treatment as are practicable for the sick and wounded of the division, who are brought in by the ambulance companies, until the sanitary service of the line of communication takes charge of them. A field hospital can meet these requirements only when it is relieved so promptly by the sanitary units in the rear that its mobility is not interfered with.

It is apparent, therefore, that Field Hospitals do not perform the functions of civil hospitals. Their equipment is limited to the things necessary to provide shelter and nourishment, and emergency treatment for patients, until they can be transferred to the immobile units at the rear.

In a field hospital, no beds or cots are provided; the patients are placed on straw over which blankets are spread, and transported to the evacuation hospital at the head of the line of communications as soon as practicable.

Station for Slightly Wounded.

The station for slightly wounded is a transient divisional organization on the battlefield. It has no permanent personnel or definitely prescribed equipment. Usually one medical officer, two non-commissioned officers and eight privates are detached from such unit of the sanitary train from which they can be best spared, and placed in charge of this station.

The Base Hospital.

Base hospitals are Medical Department units of the line of communications under the supervision

of the surgeon, base group. They occupy buildings, if suitable ones are available.

The Convalescent Camp.

In appropriate cases convalescent camps may be established in the vicinity of base hospitals. Such camps will be branches of the base hospital near which they are situated.

The Contagious Disease Hospital.

In the presence of a serious epidemic, special facilities for the isolation of cases may be required. In this event, the surgeon, base group, with the authority of the commander of the line of communications, organizes such contagious disease hospitals as may be necessary to meet the emergency.

Field Laboratories.

One or more field laboratories are established on the line of communications, where most convenient for the work to be accomplished. A suitable building is chosen in each case, preferably in a town provided with water and gas supply.

Trains, Boats and Ships.

Under the direction and control of the surgeon of the base, specially fitted trains for patients, hospital boats and ships, are organized and equipped to facilitate the rapid and comfortable transportation of the wounded to the interior.

Supply Depots.

On the line of communications, a base and an advance medical supply depot are formed.

The base depots keep on hand a sufficient quantity of surgical and medical material to insure the prompt filling of requisitions made by the medical department units in the combatant area ahead.

Evacuation Hospitals.

The primary function of the evacuation hospital is to replace field hospitals so that the latter may move with their divisions, or to take over their patients with the same object in view. So far as it would not interfere with this function, the evacuation hospital may be used for ordinary hospital purposes on the line of communications.

Evacuation Ambulance Companies.

In time of war, in addition to the ambulance companies organized to carry the wounded from the dressing stations to field hospitals, evacuating ambulance companies are formed to transport the sick and wounded from field hospitals to evacuation, base or other hospitals on the line of communications, or to points with train or boat connections for rail or water transportation.

The line of communications, with its numerous sanitary formations—the hospital trains and ships, isolation and evacuation hospitals, field laboratories, and base hospitals—will call for the activities of many reserve medical officers, offering, at the same time, a varied and extremely interesting experience.

L. C. MUDD.

(Abstract.)

THE MEDICAL SERVICE OF A BASE HOSPITAL.

(By Captain Morrison C. Stayer, Medical Corps, U. S. Army.)

The base hospital is a medical department unit of the line of communications, generally placed in the base section of the zone of line of communications, under the supervision of the surgeon, base group, and consists of 500 beds, is immobile, should be in building if available, and are numbered from 1 up for the whole military establishment as, "Base Hospital No. 1, first Field Army." As many as needed are established, depending on the amount of troops to serve and the number of casualties to be expected. The Red Cross base hospitals, now being formed, will be assigned to different places in this zone as they are needed.

The administration is carried on by a personnel of twenty medical officers, one dental surgeon,

153 enlisted men, and 46 female nurses; if the latter are not available, enlisted men will be assigned their places. It is believed the commanding officer, adjutant and quartermaster should be of the regular corps. On account of their training, they can handle the different problems to a better advantage than the new man coming in, leaving the professional work to be accomplished in part at least, by civilian doctors assigned to this unit.

The functions of this unit are to receive all sick and wounded from the front by way of the evacuation hospitals and ambulance companies, and any who may be incapacitated along the line of communications. In this hospital, they receive definitive treatment, hence these units are equipped with all the material that is needed in any city hospital. Here it is decided who shall be sent back to the front, and who sent to the rear for further treatment or discharge for disability. The commanding officer must himself select the patients to be sent to the rear, in order that as many as will be fit can be sent back to the army in the zone of advance, thus saving as many rifles as possible to the army in the field. Those sent to the zone of the interior, are practically lost to the mobile army, at least for a considerable time. The base hospital also has a convalescent camp for recuperation, and a contagious disease hospital in conjunction with it, under the supervision of the commanding officer of the base hospital.

It is to these hospitals, many civilian doctors will be assigned in time of war, hence we all should become as familiar as possible with them in time of peace in order to enhance our working value in time of war.

(Abstract.)

FIELD RECORDS OF THE ARMY MEDICAL DEPARTMENT.

(By Major Lloyd L. Smith, Medical Corps, U. S. Army.)

The reports and returns prescribed by regulations, all serve a useful purpose in facilitating the proper distribution and maintenance of the forces at front and rear, in preserving their mobility, in providing them with the necessary funds, supplies and equipment, in securing a proper account and record of the various measures taken regarding them, and, generally, in promoting the efficiency of military action. If the required papers are not promptly and correctly prepared, valuable experience, which might be utilized for improvement in methods, will be lost; co-ordination, of paramount importance in campaign, will fail; the interests, not only of the Government, but of the individual soldier as well, will be sacrificed; the hospital corps and medical department units will be improperly and insufficiently supplied; the dead will be unaccounted for; and the sick and wounded, under treatment, will suffer needless misery and privation. Medical officers must, accordingly, use every endeavor, under all conditions of service, to insure the prompt and correct execution of the prescribed reports and returns.

Correspondence, reports and returns, which, in times of peace would be forwarded to or through the department surgeon, will, in the theater of operations, be forwarded to the division surgeon—if from organizations or persons serving with mobilized divisions—and to the surgeon, base group, if from organizations or persons on duty with the line of communications.

The following special reports and forms are required only during campaign:

(a) Daily field report of sanitary personnel and transportation. This report will be made daily to the proper superior by the senior medical officer in the field, a copy being retained. Tele-

graphic report of the data called for therein, may be required if necessary. This report contains a list of the sanitary personnel—medical officers, enlisted men, and other personnel with a numerical statement of the number present for duty, and the number sick, or in arrest or confinement; also, those absent with leave, without leave, or those sick or on detached service. Under transportation, the number of animals (riding, driving and pack) are given. Under vehicles, a statement is made of the number of wagons, ambulances, travois and litters. The condition, as to serviceability, of the animals and vehicles is also stated.

(b) Daily field report of patients: This report will, likewise be rendered daily, as in the preceding case. This report gives, in number, the remaining sick since last report, those admitted from command, and those otherwise admitted; there is also a statement of the number returned to duty, transferred, died, otherwise disposed of, and those remaining under treatment. Also the number of vacant beds is given. Among the cases remaining under treatment, the number suffering from the most important diseases is given; also the number of patients suffering from wounds received in action; also the number suffering from other wounds and injuries.

(c) Monthly reports from divisional sanitary inspectors required.

(d) Report of the sanitary inspections of the medical department organizations required. In this report there is embodied statements concerning the following:

- (1) Administration of the command or organization.
- (2) Efficiency, instruction and adequacy of the medical personnel.
- (3) Condition of the hospital (or other medical department organization).
- (4) Character and sufficiency of the medical supplies.
- (5) Facilities for transporting the medical supplies and the sick and wounded.
- (6) Occurrence of preventable diseases and sufficiency of the measures taken for their prevention.
- (7) Other matters affecting the care, well being, and comfort of the sick and wounded.

(e) Certificate of identity: These certificates are issued to those who are entitled to wear a brassard, but who do not wear a uniform. This certificate contains a personal description of the individual; it is kept in a small tin box, which may be worn suspended around the neck.

(f) Diagnosis tags: On the battlefield, diagnosis tags are applied to all sick, wounded and dead; and are used in recording and reporting casualties. The diagnosis tag contains the following information: Transportation required; whether the patient is able to endure transportation; whether he is able to walk; and, also the diagnosis and the treatment accorded him. The urgency tag is to be used in addition to the usual diagnosis tag, as a conspicuous mark to call attention to some case requiring immediate assistance. The date is important and should never be omitted. When narcotics or stimulants are administered, the quantity given, and the time, should always be stated. If practicable, the name, rank, company, and regiment of the sick or wounded man, should be entered upon the diagnosis tag.

(g) List of sick and wounded: In this list are recorded the name, rank and organization of the dead or the wounded; the nature of the casualty is given, together with the diagnosis of the disease or injury. If wounded, the missile or weapon must be given, together with the place of injury and the treatment accorded; the date of entry, and

disposition of case, with date of same, is also recorded. There is, in addition, a numerical summary of all cases admitted to sick report.

(h) Return of casualties: This report is made after every action in which casualties have occurred, by the commanding officer of each independent organization. Casualties pertaining to the personnel of the organization making the report only should be included. Regimental surgeons furnished regimental commanders with information necessary for the preparation of the report. This return contains the name, rank and organization of the dead and wounded; also, the nature of the casualty, the character of the wound or other injury, nature of missile or weapon, and the place and date of the action or engagement.

(i) In the case of medical department units, which have quartermaster accountability, such additional records, reports, returns, etc., as are required by the quartermaster corps, must be kept and made.

IN ERRATA.

In list of New Members, November Journal, 1916, the name of Ethel M. Walters should have been Watters, Ethel M.

Dr. Robert Bremner Smith is not dead as reported in the November 1916 Journal.

We have just been advised that Alonzo C. Cook, reported dead in our December Journal, 1914, is not dead, but is living and address is Long Beach, Calif.

RESIGNED.

Wintermute, G. P. San Francisco.

NEW MEMBERS.

Coleman, Earl H., Yosemite Valley.
 Adams, Bonnie O., Riverside.
 Cowan, Angus B., Fresno.
 Burch, E. Lee, Watsonville.
 Thompson, Georgia E., Fresno.
 Dolley, Frank S., South San Francisco.
 Purnell, W. W., Oakland.
 Legault, J. W., Oakland.
 Mitchell, W. E., Berkeley.
 Peters, Lulu H., Los Angeles.
 Allen, Albert, Los Angeles.
 Kearney, Elizabeth, Los Angeles.
 Brandel, Harry M., Los Angeles.
 Gray, Etta, Los Angeles.
 Nutting, Floyd, Santa Monica.
 Skinner, Cynthia A., Los Angeles.
 Stovall, Leonard, Los Angeles.
 Carson, Emma M., Reno, Nevada.
 Collins, W. F., Virginia.
 Haygood, A. G., Downey.
 Reum, C. G., Los Angeles.
 Seaman, E. D., Los Angeles.
 Swift, E. L. H., Los Angeles.
 Conerty, J. M., Los Angeles.
 Derrick, J. S., Los Angeles.
 Hanlon, Edw. R., Los Angeles.
 Martyn, Geo., Los Angeles.
 Metcalf, C. F., So. Pasadena.
 Dieterle, K., Los Angeles.
 Wilson, H. P., Whittier.
 Bancroft, I. R., Los Angeles.
 Rolph, W. D., Riverside.
 McPheeters, G. Carl H., Riverside.

DEATHS.

Gleaves, James S., Missouri.
 Dransfeld, Chas. C., San Francisco.
 Faris, Clifton M., Sacramento.
 Irving, Walter William, Los Angeles.
 Dukeman, Wm. H., Los Angeles.
 Brown, Henrietta, San Francisco.
 Todd, David B., San Francisco.



3 floor

~~4101351~~

4101351

